

The Leading Independent Coalbed Methane Producer in China

Delivering sustainable shareholder returns





亞美能源控股有限公司 AAG Energy Holdings Limited

(Incorporated in the Cayman Islands with limited liability) (於開曼群島註冊成立的有限公司)

Stock Code 股份代號: 2686

Contents 目錄

	ut This 本報台	s Report	2		
Statement from the Chairman 主席致辭					
	ement 會聲明	from the Board 月	5		
Abou 關於 [:]			7		
1.		ainable Development Management 續發展管理	9		
	1.1	ESG Management ESG 管理	9		
	1.2	Stakeholders Engagement 利益相關方參與	15		
	1.3	Response to ESG Reporting Principles ESG 報告原則回應	17		
2.	Safe 安全	Production and Clean Operations 生產 清潔運營	19		
	2.1	Consolidating the Foundation of Safe Production 穩固安全根基	21		
	2.2	Co-create a Green Environment 共創綠色環境	43		
3.		le Operation and Win-Win Cooperation 運營 合作共贏	81		
	3.1	Consistently Stable Supply of High-Quality Gas 持續高質穩定供氣	81		
	3.2	Integrity and Compliance 堅守誠信合規	85		
	3.3	Supporting Suppliers to Grow Together 供應商共同成長	88		
4.	Peop 以人	ole-oriented and Harmonious Development 為本 和諧發展	90		
	4.1	Respecting Employees' Rights and Interests 尊重員工權益	90		
	4.2	Supporting Employee Development 助力員工發展	93		
	4.3	Employee Care 關愛員工生活	99		
5.	Benefiting Local Communities 社區關懷				
	5.1	Contributing to Rural Revitalization 助力鄉村振興	104		
	5.2	Building Community Together 社區共創	106		
Index 聯交/	k of th 所ES(ne HKEX ESG Report Guideline G指標索引	107		

Feedback 讀者意見反饋表

About This Report 關於本報告

This report is a true reflection of AAG Energy Holdings Limited's ("**AAG Energy**" or the "**Company**") active fulfillment of its economic, social and environmental responsibilities to achieve comprehensive, coordinated and sustainable development. The forward-looking statements with respect to business plans and development strategies in the report do not constitute a substantial commitment of the Company to investors.

Time Period

This report covers data from 1 January 2022 to 31 December 2022 with some contents out of this time range.

• Scope of the Report

This report includes AAG Energy and its subsidiaries.

• Data Specifications

All data was mainly sourced from official documents, statistical and financial reports of the Company, as well as the environmental, social and governance ("**ESG**") information collected from the Company's statistics, summaries and audits. This report is available in Chinese and English. If there is any conflict or inconsistency between the two versions, the Chinese version shall prevail. Unless otherwise stated, the currency used is the Chinese yuan ("**CNY**").

References

This report was prepared based on the "ESG Reporting Guide" on Appendix 27 of the Guidelines For Listing Rules of The Stock Exchange of Hong Kong Limited ("**Stock Exchange**"). It also referred to the Sustainability Reporting Standards (GRI standards) issued by the Global Sustainability Standard Board (GSSB).

• Reporting Specifications

Throughout this report, AAG Energy Holdings Limited may be referred to as "**AAG Energy**", the "**Company**", "**we**", "**us**" or "**our**".

Access to the Report

You can browse this report and dynamic information about the sustainable development activities of the Company from the "Sustainable Development" section on the homepage of the AAG Energy website (http://www.aagenergy.com/en-US/).

本報告是亞美能源控股有限公司(以下簡稱「亞 美能源」或「公司」)積極履行經濟、社會和環 境責任,實現全面協調可持續發展的真實反 映。報告中所涉及的經營計劃、發展戰略等前 瞻性描述不構成公司對投資者的實質承諾。

時間範圍 本報告內容時間界限為2022年1月1日 至12月31日,部分內容超出上述範圍。

報告範圍

本報告覆蓋亞美能源控股有限公司及附 屬公司。

數據來源

全部信息數據來自公司的正式文件、統計報告與財務報告,以及經由公司統計、匯總與審核的環境、社會及管治信息。報告發佈中、英文版本,如有內容不一致,請以中文版為準。如無特殊説明,貨幣單位均為人民幣元。

編製依據 本報告參照香港聯交所《主板上市規則 指引》附錄二十七「環境、社會及管治報 告指引」進行編寫,並參考全球可持續發 展標準委員會(GSSB)發佈的GRI Standards 等標準。

指代説明

為便於表述和方便閱讀,亞美能源控股 有限公司在報告中的表述分別使用「**亞 美能源」、「公司」、「我們」**或「**集團」**。

報告獲取

您可以在亞美能源控股有限公司門戶網 站主頁的「可持續發展」欄目瀏覽本報告 及公司有關可持續發展活動的動態信息 (網址:http://www.aagenergy.com/zh-CN/)。

Statement from the Chairman 主席致辭

The year 2022 was a milestone year. The 20th National Congress of the Communist Party of China (CPC) mapped out a grand blueprint for building a modern socialist country in all respects and comprehensively promoting the great rejuvenation of the Chinese nation. The 20th CPC National Congress identified the Chinese path to modernization and defined the national task of high-quality development. Globally, COVID-19 was still pervading, climate change was worsening, and the international situation was turbulent... High-quality sustainability is still the common aspiration worldwide, especially when the economy, society and the natural environment are facing many challenges.

The oil and gas industry, as a basic industry related to the lifeline of the global economy and closely associated with people's livelihood, has been concerned by all parties. Featuring massive carbon emissions, complicated operating environment, and a long value chain in the oil and gas industry, the company are facing many challenges and opportunities in low-carbon transformation and business structure adjustment particularly in the context of climate change, energy transformation, and higher rules on ESG compliance.

AAG Energy always puts health and safety as top priority on the ESG agenda and has deeply explored a safe, stable and environmentally friendly enterprise model. As a leading coal-bed methane ("CBM") exploitation and development enterprise in China, AAG Energy continued to maintain a zero track record in 2022 with the joint efforts of all employees: zero record in total recordable incident rate ("TRIR"), zero record in lost time incident rate ("LTIR") and zero occupational disease incidence rate, and achieved an excellent safety performance with zero LTIR for 8 years and 117 days in a row.

As an excellent representative in China's CBM exploration and development industry, AAG Energy is committed to the development and utilization of high-quality unconventional natural gas resources. While ensuring product quality, the Company prioritizes stable gas supply, continuously improves service and technological innovation, and contributes to social stability and development. In 2022, AAG Energy CBM gross production continued to grow by 13% to 1.466 billion cubic meters (51.8 billion cubic feet) from last year, including 1.182 billion cubic meters (about 41.7 billion cubic feet) in Panzhuang concession and 284 million cubic meters (about 10 billion cubic feet) in Mabi concession. We continue to enhance the supply chain management system by managing suppliers' ESG risk in the full-life cycle and guiding suppliers to fulfill their social and environmental commitments which driving the coordinative development of Company's value chain and partners, and boosting the sound development of the business ecosystem.

2022年是具有里程碑意義的一年,中國勝利召 開黨的二十大,擘畫了全面建設社會主義現代 化國家,以中國式現代化全面推進中華民族偉 大復興的宏偉藍圖,明確了高質量發展的國家 任務。放眼全球,新冠疫情依舊蔓延、氣候變 化加劇、國際局勢動盪……在經濟、社會與自 然環境面臨諸多挑戰的今天,高質量的可持續 發展仍然是國內外社會的共同期盼。

油氣產業作為關係全球經濟命脈的基礎產業, 又與民生息息相關,一直以來受到各方的關 注。特別是近年來,在氣候變化、能源轉型、 ESG合規要求不斷提升的外部環境下,油氣行 業高碳排、作業環境複雜、產業鏈條長等特點 給公司帶來了低碳轉型、業務結構調整等一系 列挑戰和機遇。

亞美能源始終將健康安全工作放在ESG工作的 首要位置,深入探索安全穩定、環境友好的企 業模式。作為國內領先的煤層氣勘探開發企 業,在全體員工的共同努力下,亞美能源2022 年持續保持總可記錄事故率(「TRIR」)、損失 工時事故率(「LTIR」)、職業病發病率均為零 的績效記錄,累計實現8年零117天無損失工 時事故的安全業績。

亞美能源作為中國煤層氣勘探開發的行業卓越 代表,始終追求高水準的非常規天然氣資源開 發利用,在確保產品質量的前提下,以穩定供 氣為首要任務,持續提升服務質量與技術創新 能力,為社會穩定發展貢獻自身力量。2022 年,亞美能源煤層氣總產量相較2021年繼續 保持增長,同比增長約13%達14.66億立方米 (即518億立方英尺),其中包括潘莊區塊的總 產量11.82億立方米(即約417億立方英尺)和 馬必區塊的總產量2.84億立方米(即約100億 立方英尺)。我們持續完善供應鏈管理體系, 在全生命周期對供應商的ESG風險進行管理, 積極引導供應商履行社會及環境責任,帶動公 司價值鏈及合作伙伴共同成長,推動業務生態 圈良性發展。

Statement from the Chairman 主席致辭

AAG Energy attaches great importance to climate change and energy challenges and proactively responds to the national strategic goal of carbon peaking by 2030 and carbon neutrality by 2060. While continuously and stably producing clean energy, the Company issues a series of goals, strategies and actions to address climate change. The Company uses energy more efficiently and enhances environmental management, practices the low-carbon operation strategy, and explores the way to utilize renewable energy. While facilitating the value chain to transform towards being environment-friendly and lowcarbon so as to be the stable supplier of energy for society and the promoter of the low-carbon transformation towards clean energy.

AAG Energy upholds the concept of thriving with talent, and protects the rights of employees with a professional and effective talent training system, equal and diverse talent platform and open and fair career paths to timely respond to the needs of employees. The Company is committed to building an equal, inclusive and harmonious working environment to grow with talents. We participate in public charities, fulfill corporate social responsibilities, and provide assistance to society within our scope. We provided about 63.03 million cubic meters of affordable gas for domestic use to Jincheng throughout the year, about 2.93 million cubic meters of free gas supply to the residents nearby, about 219 million cubic meters of high-quality but affordable industrial gas to the local area of Jincheng, and about 118 million cubic meters of gas supply to Shanxi in winter when heating are needed. In total, we provided about 402 million cubic meters of high-quality but affordable gas to the local area, equivalent to about RMB200 million of profits we shared, making a significant contribution to the local economy.

Step after step the ladder is ascended. Upholding the vision of "inspiring to be the world's leading, most enduring clean energy company", AAG Energy firmly practices the path of green, low-carbon, inclusive and sustainable development, and strives to become an innovative company that creates greater value for the society with its responsibility. In the future, AAG Energy will work with its industrial chain partners to focus on the development and value optimization of unconventional natural gas resources. We will continuously supply clean energy for China's economy, and take huge responsibility for China's sustainability.

亞美能源高度重視氣候變化和能源挑戰,積極 響應國家「3060雙碳」戰略目標。在持續穩定 輸出清潔能源的同時,推出一系列應對氣候變 化的目標、戰略和行動,不斷強化自身能源使 用效率與環境管理能力,深入踐行低碳運營戰 略,探索可再生能源應用途徑,助力全價值鏈 的環保低碳轉型,爭做社會能源穩定供應的守 護者、清潔能源低碳轉型的推動者。

亞美能源秉承人才興企的管理理念,在切實保 障員工權益的基礎上,持續建立專業有效的人 才培養體系,平等多元的人才平台,暢通公平 的發展路徑,及時響應員工需求,致力於構建 平等、包容、和諧的工作氛圍,實現人才與公 司共成長。我們積極投身公益事業,主動履行 企業社會責任,為社會提供力所能及的幫助。 我們全年為晉城當地貢獻廉價民用氣約6,303 萬立方米,為晉城當地貢獻廉價民用氣約6,303 萬立方米,為晉城當地提供優質廉價工業氣約 2.19億立方米,採暖季保供山西全省氣量約 1.18億立方米,佔計為當地提供優質廉價氣量 約4.02億立方米,折合向當地讓利約2億元人 民幣,為當地經濟建設做出重大貢獻。

積跬步以至千里,積小流以成江海。以「勵志 成為國際領先的永續發展的清潔能源偉大企 業」為可持續發展願景的亞美能源,將堅定踐 行綠色低碳、普惠包容的可持續發展之路,以 自身的責任擔當,努力成為一家為社會創造更 大價值的創新型企業。面向未來,亞美能源將 和產業鏈合作伙伴攜起手來,專注於非常規天 然氣資源的開發及價值優化,為中國經濟供應 清潔能源,為中國的可持續發展挺膺擔當。

Statement from the Board 董事會聲明

The Board (the "**Board**") of Directors (the "**Directors**") of AAG Energy highly recognizes the importance of sustainable development and ESG management for long-term stable operation, and takes full responsibility for ESG strategy and reporting as the highest decisionmaking organization of its ESG efforts. The Board deliberates the Company's sustainability strategy, objectives and risks, reviews the progress of progressing towards ESG objectives and monitors ESGrelated matters that may affect the Company's business or operation, shareholders and other stakeholders. Besides, the Board oversees the commitment and performance of key ESG issues, and has achieved more independent, efficient and professional ESG management of the Board, ensured the integration of ESG concepts and corporate policies, and explored a new sustainability model that combines ESG strategy with the Company's business.

Under the Board, the ESG Working Group is the main supervisory body of the Company's ESG work, consisting of independent non-executive Directors, executive Directors and senior management of the Company. The Working Group is responsible for monitoring the Company's ESG performance and the effectiveness of the operation system. Based on the social and economic environment and the Company's development strategy, the Working Group regularly evaluates material ESG issues and submits them to the Board of Directors for review. The Board discusses and determines the Company's ESG risks and opportunities prioritizes the management and improvement of material issues as the key ESG tasks, incorporates them into the Company's overall strategy for consideration, and supervises that management and performance. In 2022, the Company has identified the risks and opportunities brought by climate change from three aspects: physical risks, transformation risks and market opportunities. In the future, the Company will continue to reinforce the management of climate risks and opportunities and actively address them.

亞美能源董事會高度認同可持續發展及ESG管 理工作對公司長久穩健經營的重要性,認可並 承擔ESG策略及匯報的全部責任,是公司ESG 工作的最高決策機構。董事會審議公司可持續 發展戰略、目標及風險情況,檢討ESG目標達 成進度,監察可能影響公司業務或運作、股東 與其他利益相關方的ESG相關事宜,監管ESG 關鍵議題承諾及表現,實現更獨立、高效、專 業的董事會ESG管理,確保ESG理念與公司 政策的融合,探索ESG與公司業務相結合的可 持續發展新模式。

董事會下設由獨立非執行董事、執行董事、公司高管組成的ESG工作組,作為公司ESG工作主要監管機構,負責監察公司ESG表現及運行體系有效性。工作組基於外部社會經濟宏觀環境和公司發展戰略,定期開展ESG重要議題評估工作,並報董事會審閱。董事會討論並確定公司ESG風險與機遇,將重要議題的管理與提升作為ESG重點工作,並將其納入公司整體戰略加以考慮,監督議題管理與績效表現。 2022年,公司已從實體風險、轉型風險、市場機遇三個方面初步識別氣候變化帶來的風險與 機遇,未來,集團將繼續加強氣候風險和機遇 的管理能力並積極著手應對。

Statement from the Board 董事會聲明

AAG Energy is committed to integrating the sustainability strategy into the corporate strategy. The Company recognizes the core ESG strategy as an important element of the development planning system and integrate it into the development and operation philosophy. Supported by the Company's main business, AAG Energy fully considers regulations, industry features and the Company's reality, sets the ESG action targets and improvement direction, and jointly promotes the realization of the strategic goals. The Company clarifies the ESG responsibilities at all levels and units, established the communication mechanism between all levels, and regularly updates and improves the working mechanism to form an ESG governance organization system with linkage and efficient operation. In 2022, we summarized the progress and achievement of greenhouse gases, energy utilization and waste emissions in accordance with the established goals, and reported to the Board who reviewed and supervised the ESG progress.

This report details the progress and effectiveness of the ESG work of AAG Energy in 2022 and is reviewed and approved by the Board. The Board and all Directors of the Company pledge that the contents of this report are free from any false records, misleading statements or major omissions, and assume individual and joint liabilities for the authenticity, accuracy and completeness.

亞美能源致力於可持續發展戰略融入企業戰略。公司將ESG核心戰略作為發展規劃體系重要一環,融入至公司發展經營理念,以公司主營業務為支撐,結合監管要求、行業特點與企業實際,設定ESG行動目標與提升方向,共同推進戰略目標實現。公司圍繞ESG戰略方針,明確各層級、各單位的ESG工作職責,建立各層級間交流互通工作機制,確保橫向協同、縱向貫通,工作機制定期進行更新完善,逐步形成上下聯動、運轉高效的ESG治理組織體系。 2022年,我們按照包含溫室氣體、能源使用、廢棄物排放在內的各項既定環境目標,匯總環境目標的推進與達成情況,並上報至董事會, 遺事會對亞美能源ESG目標完成進度進行審閱及監督。

本報告詳盡披露亞美能源2022年ESG工作的 進展與成效,由董事會審議通過。公司董事會 及全體董事保證本報告內容不存在任何虛假記 載、誤導性陳述或重大遺漏,並對其內容的真 實性、準確性和完整性承擔個別及連帶責任。

About Us 關於我們

Company Profile

Vision

To be the world's leading, most enduring clean energy company for today and tomorrow.

Mission

To create best value for society, optimized platform for employees and highest return for shareholders.

AAG Energy is a leading international energy company in the field of CBM exploration and production in China. It is committed to developing and optimizing the value of unconventional gas resources to supply clean energy to support the economic and social development of China.

AAG Energy's key operating assets, Panzhuang and Mabi concessions are located in the southwestern part of Qinshui Basin in Shanxi Province, which boasts the largest proved CBM geological reserves among basins in China. AAG Energy's Panzhuang concession, which is in partnership with China United CBM Corporation Ltd. ("**CUCBM Corporation**"), is the first Sino-foreign CBM cooperative project with full-scale commercial development and production and also the most commercially advanced Sino-foreign CBM asset in China. The Overall Development Plan for the southern area of the Mabi concession, which is in partnership with China National Petroleum Corporation ("**CNPC**"), was approved by the National Development and Reform Commission ("**NDRC**") of China in September 2018. The designed annual production capacity for commercial development is 1 billion cubic meters.

AAG Energy recognizes the importance of clean energy to the country's green development. In the context of the country's goal of achieving carbon neutrality before 2060, it is particularly important to ensure the supply of clean energy. AAG Energy will give full play to its successful experience in the commercialization of CBM, lead an excellent management team to dedicate more clean energy to society, bring better returns to investors, and make greater contributions to environmental protection.

公司簡介

願景

勵志成為國際領先的永續發展的清潔能源偉大 企業

使命

為社會創造最高價值,為員工創造最佳平台, 為股東創造最大效益。

亞美能源是一家在中國煤層氣勘探開發領域處 於領先地位的國際能源公司,致力於非常規天 然氣資源的開發及價值優化,為中國經濟社會 供應清潔能源。

亞美能源的主要運營資產潘莊及馬必區塊位於 山西省沁水盆地西南部,其煤層氣探明地質儲 量居中國各盆地之首。亞美能源與中聯煤層氣 有限責任公司(「**中聯公司**」)合作的潘莊區塊是 中國首個進入全面商業開發和生產的中外合作 煤層氣區塊,同時也是中國商業化程度最高的 中外合作煤層氣資產。亞美能源與中國石油天 然氣集團有限公司(「**中國石油**」)合作的馬必區 塊南區煤層氣對外合作項目總體開發方案已於 2018年9月獲得中華人民共和國國家發展和改 革委員會(「**國家發改委**」)的批復,商業開發年 設計產能為10億立方米。

亞美能源認識到清潔能源對國家綠色發展的重要性,在國家2060年實現碳中和目標的背景下,保障清潔能源供應顯得尤為重要。亞美能源將充分發揮在煤層氣商業化進程中成功的經驗並帶領優秀的管理團隊,為社會奉獻更多的 清潔能源,為投資者帶來更優的回報,為環境 保護作出更大的貢獻。

About Us 關於我們

According to reports issued by Netherland Sewell & Associates Inc. ("**NSAI**"), an independent reserve certification company, AAG Energy's net 2P natural gas reserve as of the end of 2022 ("**2022YE**") was approximately 15.786 billion cubic meters, representing a decrease of 2.199 billion cubic meters from the net 2P reserve at the end of 2021 ("**2021YE**"). After deducting net gas production for 2022, the net 2P reserves decreased by 6%. The net 2P reserve of the Panzhuang concession was 3.516 billion cubic meters, representing a decrease of 16% from the net 2P reserve at 2021YE. After deducting net gas production for 2022, the net 2P reserves increased by 7%. The net 2P reserve of the Mabi concession was 12.27 billion cubic meters, representing a decrease of 11% from the net 2P reserve at 2021YE. After deducting net gas production for 2022, the net 2P reserve increased by 9%. 根據獨立儲量認證公司NSAI發佈的報告,截 至2022年底亞美能源淨2P天然氣儲量約為 157.86億立方米,較2021年底淨2P儲量下降 了21.99億立方米,扣除2022年淨產氣量之後, 淨2P儲量降低了6%。潘莊區塊貢獻的淨2P儲 量為35.16億立方米,較2021年底的淨2P儲量 下降了16%,扣除2022年淨產氣量之後,淨 2P儲量增長了7%;馬必區塊貢獻的淨2P儲量 為122.7億立方米,較2021年底的淨2P儲量降 低了11%,扣除2022年淨產氣量之後,淨2P 儲量降低了9%。

AAG Energy is committed to establishing a sound sustainability management system and governance structure and recognizes that the concept of sustainable development is the guarantee of the Company's long-term stable development. The Company embeds the awareness of sustainable development into the corporate culture, implements the sustainability management system, makes the system applicable, and consolidates and practices sustainability through the management system. After scientifically evaluating the Company's current business development, the need for sustainable development and the concerns of external stakeholders, we attach great importance to communication with stakeholders, regularly identify and evaluate the key ESG issues and their importance, and integrate the ESG concept into each link of the Company's operation. We are committed to achieving the sustainability strategy with multiple parties.

1.1 ESG Management

The Board of AAG Energy highly recognizes the importance of sustainable development and ESG management for long-term stable operation and recognizes and takes full responsibility for ESG strategy and reporting as the highest decision-making organization of its ESG efforts. The Board deliberates the Company's sustainability strategy, objectives and risks, reviews the progress of progressing towards ESG objectives, and monitors ESG-related matters that may affect the Company's business or operation, shareholders and other stakeholders. Besides, the Board oversees the commitment and performance of key ESG issues, ensures the integration of ESG concepts and corporate policies, and reviews and supervises the progress of ESG goals. 亞美能源致力於建立完善的公司可持續發展管 理體系及治理架構,始終認同可持續發展理念 是公司長期穩定發展的保障,將可持續發展意 識滲透到企業文化之中,貫徹可持續發展管理 體系的落實,保持制度體系的適用性,使可持 續發展通過管理制度實現固化與落地。我們科 學評估公司業務發展現狀、自身可持續發展需 求及外部利益相關方關注情況,高度重視與利 益相關方的交流溝通,定期識別並評估ESG 議 題及重要性,將ESG理念完整結合到公司運營 的每個環節,致力於實現多方共進的可持續發 展戰略。

1.1 ESG管理

亞美能源董事會高度認同可持續發展及 ESG管理工作對公司長久穩健經營的重 要性,認可並承擔ESG策略及匯報的全 部責任,是公司ESG工作的最高決策機 構。董事會審議公司可持續發展戰略、 目標及風險情況,檢討ESG目標達成進 度,監察可能影響公司業務或運作、股 東與其他利益相關方的ESG相關事宜, 監管ESG關鍵議題承諾及表現,確保 ESG理念與公司策略的融合,並對亞美 能源ESG目標制定及完成進度進行審閱 及監督。

In 2022, AAG Energy maintained the completeness of the ESG management system and effectively engaged all departments in the ESG work. The Board has a nine-member ESG Working Group, including an independent non-executive Director, an executive Director and several senior management members, so as to review the sustainable development strategy, objectives, and risks. To fully implement the ESG tasks arranged by the ESG Working Group, the Company follows the ESG guide listed in the latest ESG reporting guidance of the Stock Exchange and disclose its annual ESG report. The ESG Executive Group under the ESG Working Group is composed of four groups as the ESG Executive Management Team, the Safety and Environmental Team, the Community Contribution Team and the Corporate Governance Team. With the joint efforts of functional departments, the ESG Executive Group is responsible for formulating objectives and plans, implementing the Company's strategy and maintaining communication with internal and external stakeholders. The ESG Executive Management Group set up an ESG Executive Office in the health safety and environmental department.

To further standardize and strengthen ESG management and ensure its implementation, AAG Energy continuously incorporates ESG management into the Company's business operation, holds special meetings on ESG work improvement from time to time, conducts special training on ESG, and practices systematic management of ESG information. The Company continues to collect ESG information for Panzhuang Project and Mabi Project, regularly manage potential ESG risks, and continuously improves ESG management. 2022年,亞美能源保持ESG管理體系架 構的完整性,有效推動各部門參與ESG 工作。董事會下設ESG工作組,ESG工 作組由9名成員組成,包括一名獨立非 執行董事,一名執行董事,及數名公司 高級管理層成員,負責審議公司可持續 發展戰略、目標及風險情況。為全面貫 徹董事會 ESG 工作組對 ESG 工作的安排 部署,認真履行聯交所最新ESG指引意 見諮詢文的ESG工作指南,並如期披露 年度ESG報告,亞美能源ESG工作組下 設ESG執行組,執行組由四個小組組成: ESG執行管理組、安全環保組、社區貢 獻組與企業治理組,由職能部門共同參 與,負責制定相應工作目標與計劃,落 實公司戰略,與內外部利益相關方保持 溝通。ESG 執行管理組下設 ESG 執行辦 公室,ESG執行辦公室設在安全環保部。

為進一步規範和加強公司ESG管理工作, 保障 ESG工作落地與執行,亞美能源將 ESG管理不斷納入公司業務運營,不定 期召開 ESG工作提升專題會議,開展 ESG專題培訓,對ESG信息進行體系化 管理,持續對潘莊項目及馬必項目進行 ESG信息收集,對潛在ESG風險進行日 常管理,不斷提升公司ESG管理水平。



Figure: ESG Work Organization Chart at AAG Energy 圖:亞美能源 ESG 工作組織架構圖

The responsibilities of ESG Working Group include:

- Reviewing and guiding ESG related policies, regulations, standards and trends, assessing the external and internal influence from ESG work, determining the materiality of ESG related issues of the Company, making the Company's ESG strategies and forming annual ESG working goals and plans;
- Supervising and monitoring the implementation of the Company's ESG strategies, breaking down annual goals and plans, reviewing the progress of ESG goals and implementing annual reviews;
- Supervising and monitoring the operation system of the Company's ESG management to ensure its continuous effectiveness and compliance with applicable laws and regulations;
- Reviewing and approving the Company's annual ESG report;
- 5. Other matters that the ESG Working Group considers relevant to ESG management or other matters authorized by the Board.

ESG工作組職責包括:

- 檢視ESG相關政策、法規、標準及 趨勢,評估ESG工作對公司內外部 的影響,判定公司ESG事宜的重大 性,制定公司ESG戰略規劃,及形 成年度工作目標與計劃;
- 監察企業對ESG戰略的執行情況, 分解年度目標與計劃,檢討ESG目 標達成的進度,實施年度考核;
- 監察公司ESG運行體系,以確保其 持續有效,並符合適用法例及規則 之要求;
- 審閱及核定公司年度環境、社會及 管治報告書;
- 5. 工作組認為與ESG有關的其他事宜 或董事會授權的其他事宜。

The responsibilities of the ESG Executive Management Team include:

- Be responsible for the breakdown and implementation of ESG action plans, including but not limited to safety and environmental management plan, community contribution management plan, corporate governance plan and other ESG work plans;
- 2. Be responsible for supervising the progress of ESG objectives and implementing annual assessments;
- 3. Be responsible for the entrusted preparation and internal audit of the annual ESG report;
- 4. Assist the Board in the presentation of the ESG report.

The responsibilities of the ESG Executive Office include:

- Coordinate the Company's ESG management and promote the implementation of each ESG special working group's tasks;
- 2. Assist in establishing the Company's ESG management system and promote its implementation;
- 3. Be responsible for the training, publicity and promotion of ESG related information;
- 4. Be responsible for comprehensively managing the preparation of ESG report, reviewing and revising the Chinese and English versions of ESG report, and helping the release of ESG report in Chinese and English;
- Regularly report the progress of the ESG annual work plan and ESG target management to the ESG Executive Management Team.

ESG執行管理組職責包括:

- 負責ESG行動計劃的分解與實施, 包括不限於安全環保管理計劃、社 區貢獻管理計劃、公司治理計劃等 ESG工作計劃;
- 負責監督ESG目標達成的進度,實施年度考核;
- 3. 負責年度ESG報告的委託編製及內 部審核;
- 4. 配合董事會ESG報告的匯報。

ESG 執行辦公室職責包括:

- 1. 統籌協調公司ESG管理工作,推進 落實公司各ESG專項工作組工作;
- 2. 協助建立公司ESG管理體系,並推 進實施;
- 3. 負責 ESG 相關信息知識的培訓宣傳 推廣工作;
- 負責統籌管理ESG報告的編製工 作,審核校訂ESG報告中英文版 本,配合ESG中英文報告發佈工 作;
- 定期向ESG執行管理組匯報ESG 年度工作計劃和ESG指標目標管理 進展情況。

In 2022, AAG Energy abided by the ESG Report Management System and the ESG Information Management System, broke down and implemented the sustainable development functions and division, followed the five-year strategic plan for sustainable development and set ESG environmental targets, and systematically manages ESG information. We tracked GHG emission targets, water use targets and wastewater emission targets, further promoted the ESG work to meet higher requirements and improve ESG performance. To achieve sustainable development, AAG Energy pledges as follows:

- We adopt fair labor practices at our workplaces and will abide by all relevant laws and industry standards.
- We prevent any work-related injuries, fatalities, or health impairments to employees and contractors.
- We maintain transparent and trustworthy relationships with all shareholders and communicate issues of common concern to enhance mutual understanding.
- We strive to run our operations in socially responsible, sustainable and environmentally manners, thereby minimizing adverse impacts caused by the production.
- We are committed to helping all employees unleash their full potential to gain satisfaction from work and make their greatest contribution to the Company.

2022年,亞美能源遵循《ESG報告管理制 度》與《ESG信息管理制度》,細化落實可 持續發展職能與分工,遵循公司的可持 續發展五年戰略規劃和ESG環境目標, 對ESG管理工作開展系統性梳理與分析, 對溫室氣體排放控制目標、用水控制目 標、廢水排放控制目標逐項跟進,進一 步推動ESG工作滿足更高要求,提升公 司ESG表現。在實現可持續發展的路上, 亞美能源承諾:

- 在工作場所將採用公平的行為準則
 並遵守所有相關的法律和工業標準。
- 避免員工和勞務人員出現任何工 傷,致死事故以及健康損害。
- 將與所有股東保持透明和互相信任的關係並就雙方互相關心的問題進行溝通以增進相互了解。
- 將堅持對社會負責、可持續發展和 環保的經營理念,開展生產活動, 以減少生產所帶來的不利影響。
- 致力於促使所有員工發揮其最大潛 能,從工作中獲得滿足感,最大程 度的為公司做出貢獻。

1.2 Stakeholders Engagement

AAG Energy attaches great importance to stakeholder engagement. An efficient stakeholder communication and feedback mechanism has been established, through different channels to listen to the opinions and suggestions of the government and regulators, shareholders, customers, employees, communities and the public and other stakeholders and to identify the feedback and expectations of various stakeholders of the Company. The demands of various parties have been responded to in a targeted manner in order to improve the Company's social responsibility performance on all fronts.

The following table shows the main communication channels we use, the main concerns and expectations of stakeholders, and the measures taken by the Company regarding relevant opinions.

1.2 利益相關方參與

亞美能源重視利益相關方溝通,建立高效的利益相關方溝通反饋機制,借助不同渠道聽取政府與監管機構、股東、客戶、員工、社區及公眾等利益相關方的意見和建議,識別各利益相關方對公司的反饋與期望,有針對性地回應各方需求,綜合提升公司社會責任表現。

下表對亞美能源所使用的溝通渠道、利 益相關方的主要關注議題及期望進行展 示,以及公司就有關意見所採取的措施。

Stakeholders 利益相關方	Expectations and Demands 期望與要求	Communication Channel 溝通方式
Governments and	Complying with national laws and regulations	Reporting and filing
Regulators	Promoting local economic development	Providing suggestions
	Boosting local employment	Special report
	Promoting industry development	Discuss and cooperation
政府與監管機構	貫徹落實國家政策及法律法規	上報文件
	促進地方經濟發展	建言獻策
	帶動地方就業	專題匯報
	推動行業發展	洽談合作
Shareholders	Return of investment	Company announcements
	Compliance operation	Special report
	Safe production	Field visit
股東	收益回報	公司公告
	合規運營	專題匯報
	安全生產	實地考察
Customers and Partners	Lawful performance of contracts	Business communication
	Operations with integrity	Customer feedback
	High-quality products and services	Communication and discussion
客戶及合作伙伴	依法履約	商務溝通
	誠信經營	顧客反饋
	優質產品與服務	交流研討

Stakeholders 利益相關方	Expectations and Demands 期望與要求	Communication Channel 溝通方式
Environment 環境	Emission compliance Energy conservation and emission reduction Ecological protection 合規排放 節能減排 保護生態	Work reports Statement submission Investigation and inspection 工作匯報 報表報送 調研檢查
Employees	Protection of rights and interests of employees Occupational health Compensation and benefits	Staff informal meeting Collective negotiation Democratic communication platform
員工	Career development 權益維護 職業健康 薪酬福利 職業發展	員工座談會 集體協商 民主溝通平台
Communities and the Public	Improvement of community environment Public welfare engagement Open and transparent information	Company Official website Company announcements Interview and communication
社區及公眾	改善社區環境 參與公益事業 信息公開透明	公司官方網站 公司公告 採訪交流

1.3 Response to ESG Reporting Principles

Materiality: In accordance with the requirements of the "ESG Reporting Guide" and other relevant principles, combined with the capital market's concerns about the Company's sustainable development, AAG Energy communicated with various stakeholders via different channels, and then based on a benchmarking analysis of the issues disclosed in the reports of companies in the same industry identified the ESG issues related to the Company.

Using anonymous online questionnaire surveys, we sorted the selected issues according to priority so as to understand the importance of internal and external stakeholders put on the relevant issues and drew a materiality matrix of AAG Energy's sustainable development issues. We regularly review the materiality matrix in combination with external development trends and the characteristics of our business operation, further review the materiality matrix, downgrade or upgrade the importance of some issues according to the level of disclosure and boundary of issues, ensure the timeliness and rationality of the matrix of major issues, and draw AAG Energy's sustainability matrix in 2022.

1.3 ESG報告原則回應

重要性原則:亞美能源按照聯交所《環 境、社會及管治報告指引》等相關原則要 求,結合資本市場對公司可持續發展關 注重點,通過與各類利益相關方不同形 式的溝通與交流,對同行業企業報告披 露的議題進行對標分析,識別並篩選與 亞美能源相關的ESG議題。

我們借助不記名的在線問卷調研方式對 篩選出的議題進行優先級排序,了解內 外部利益相關方對ESG議題的重視程度, 繪製出亞美能源可持續發展議題重大性 議題矩陣。我們定期結合外部發展趨勢 及自身業務運營特點,進一步審閲重大 性議題矩陣,按照議題披露程度與邊 界,調整部分議題重要性程度,確保重 大性議題矩陣的時效性與合理性,繪製 出亞美能源2022年可持續發展重大議題 矩陣。



Steps to Identify Material Environmental, Social and Governance Issues 環境、社會及管治議題識別流程



Materiality Matrix of AAG Energy of 2022 亞美能源 2022 年可持續發展重大議題矩陣

Quantitative: AAG Energy established standardized ESG indicator management tools covering the headquarters, Panzhuang and Mabi concessions to conduct regular statistics on quantitative key disclosure indicators involving the whole "Environmental" scope and the partial "Social" scope from the *ESG Reporting Guide*. Statistical data was summarized during the year and finally form this report for disclosure. ESG quantitative data is detailed in sections of this report.

Consistency: This report made no major adjustments to the scope of disclosure compared with the ESG reports for previous years, and adopted consistent statistical and disclosure methods and further refined some categories of disclosure corresponding to the ESG Reporting Guide. For detailed ESG comparison data over the years, please refer to the relevant sections of this report.

量化原則:亞美能源建立了覆蓋總部、 潘莊項目及馬必項目的標準化ESG指標 管理工具,對包括ESG報告指引中所有 「環境」範疇及部分「社會」範疇的量化關 鍵披露指標進行定期統計,並於年內進 行匯總,最終形成本報告對外披露。 ESG量化數據詳見本報告各章節。

一致性原則:本報告相對往年可持續發展報告披露範圍並無重大調整,且使用一致的披露統計方法,並進一步細化部分聯交所ESG報告指引對應披露類別。 ESG多年對比數據詳見本報告各章節。

Importance to Sustainable Development of AAG Energy 對亞美能源可持續發展的重要性

AAG Energy always adheres to the principle of "safety is the first priority", attaches great importance to safe production and clean operation promotes the safety management of the energy industry, improves risk control, and ensures stable production and the intrinsic safety of operation. The Company fully implements the workplace safety management system, firmly builds the line of defense against workplace safety, establishes an excellent culture of safety, ensures the safety of employees and suppliers, and makes the brands of safety well accepted. In 2022, AAG Energy upgraded the HSE management system to the QHSE system, ie: quality, health, safety and environment management system, and through publicity, education and training on quality, health, safety and environment to build the culture of safety.

The Company has been forestalling safety risks in worst-case scenarios. The Company sticks to the management policy of "making safe production standardized", and focuses on "optimizing the documents of QHSE management system, improving the awareness of HSE among all staff, strengthening HSE training, and enhancing HSE management" to actively work hard to realize the key performance indicators of HSE set by the Company.

In 2022, thanks to the Company's management and joint efforts by the Project Department, all departments and all employees, AAG Energy maintained a good record track in QHSE key performance indicators: zero lost time injury rate ("LTIR"), zero total recordable incident rate ("TRIR"), zero preventable motor vehicle accident ("PMVA") and zero environmental pollution accident ("EPA"), and successfully completed the key performance target of health, safety and environmental protection. As of 31 December 2022, AAG Energy had achieved excellent safety performance with zero LTIR for 8 years and 117 days in a row.

亞美能源始終堅持「安全是第一要務」原則, 高度重視安全生產與清潔運營,推動能源行業 安全管理,提升風險管控能力,確保生產穩定 和運營本質安全。公司全面落實安全生產管理 體系,牢築安全生產防線,樹立良好的安全文 化氛圍,保障員工及供應商的安全,提升安全 品牌認可度。2022年,亞美能源將「HSE」管 理體系升級為「QHSE」質量健康安全環保管理 體系,加強質量健康安全環保宣傳教育培訓和 安全文化建設。

公司始終牢守安全底線,堅持「大力推行安全 生產標準化」的管理方針,將「優化OHSE管 理體系文件,提高全員安全環保意識、加強安 全環保培訓、提升安全環保管理水平」作為主 要抓手,為實現公司設定的健康安全環保關鍵 績效指標,主動性開展工作。

2022年,在公司管理層的高度重視,項目部及 各部門的大力支持及全體員工的共同努力下, 亞美能源實現了損失工時事故率(「LTIR」)為 零、總可記錄事故率(「TRIR」)為零、可預防交 通事故率(「PMVA」)為零、環保污染事故 (「EPA」)為零的QHSE關鍵績效指標,圓滿完 成健康安全環保關鍵績效目標。截至2022年 12月31日,亞美能源實現了累計8年零117天 無損失工時事故的安全業績。

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LTIR (Lost Time Injury Rate) LTIR(損時工時事故率)



TRIR (Total Recordable Incident Rate) TRIR(總可記錄事故率)



PMVA (Preventable Motor Vehicle Accident) PMVA(可預防交通事故率)



EPA (Environmental Pollution Accident) EPA(環境污染事故)

	Safety key performance indicators 安全環保關鍵績效指標	Target 目標	Process 完成情況
AAG Energy 亞美能源	LTIR — Lost Time Injury Rate LTIR — 損失工時事故率	< 0.45	0
	TRIR — Total Recordable Incident Rate TRIR — 總可記錄事件率	< 1.35	0
	PMVA — Preventable Motor Vehicle Accident PMVA — 可預防交通事故率	< 1.8	0
	Occupational Diseases Incidence 職業病發病率	0	0
	Leakage of Environmental Pollutants (hazardous waste) 環境污染物洩漏量(危廢)	<3m ³	0m ³
Contractor 承包商	LTIR — Lost Time Injury Rate LTIR — 損失工時事故率	<1.296	0
	TRIR — Total Recordable Incident Rate TRIR — 總可記錄事件率	<2.349	0
	Leakage of Environmental Pollutants (hazardous waste) 環境污染物洩漏量(危廢)	<3m ³	0m ³

2.1 Consolidating the Foundation of Safe Production

AAG Energy has been long implementing the management policy of "making safe production standardized", comprehensively and deeply promoting quality management, continuing to build the QHSE management system and the standardized workplace safety management system, and strengthen training and building of culture of safety. Meanwhile the Company also inspects and audits QHSE protection, increase the safety management of contractors, and improving the awareness, knowledge and skills of employees and contractors in this field. Furthermore, the Company makes full use of information platform and video monitoring system to efficiently supervise and manage the whole process, implements various QHSE measures, ensure the safe, stable, continuous and compliant operation of various business activities, and continuously improve QHSE management.

Safety Management System

AAG Energy strictly abides by the laws and regulations such as the Production Safety Law of the People's Republic of China, the Environmental Protection Law of the People's Republic of China and Safety Regulations for CBM Exploitation (Trial Edition) and forms the Management System for Standardized Internal Control, the HSE Management System and the Management System for Safe Production Standardization. In 2022, Panzhuang Project and Mabi Project revised the HSE Management System of US-China Energy Group Co.,Ltd and the HSE Management System of CBM of AAG Energy respectively, updated the safety management and specified the safety regulations and codes of conduct in all activities, which also laid a solid foundation for the effective implementation of the Company's QHSE system.

According to the Company's new organizational structure, division of responsibilities and management practice, AAG Energy acts under the principle that "whoever is in charge is responsible", and "those who take charge of industry, business, and production and operation must also emphasize safety" to further optimize and improve basic management of health, safety and environmental protection.

2.1 穩固安全根基

安全管理體系

亞美能源依據《中華人民共和國安全生產 法》《中華人民共和國環境保護法》《煤層 氣地面開採安全規程(試行)》等法律法 規,內部制定《先進性標準化內控管理制 度》《亞美能源健康安全與環境管理體系》 《安全生產標準化管理體系》等規章制度 和相關HSE制度文件。2022年,潘莊項 目和馬必項目分別修訂了《美中能源有限 公司HSE管理制度》,更新對應安全管 理要求,明確各項活動必須遵守的安全 法規和行為準則,也為公司QHSE體系 的有效實施夯實了基礎。

根據公司新的組織架構、職責分工及管 理實際,本著「誰主管,誰負責」、「管業 務必須管安全、管生產經營必須管安全」 的原則,進一步優化完善公司健康安全 環保基礎管理工作。

亞美能源QHSE管理委員會 AAG Energy's QHSE Management Committe



Figure: Structure of QHSE Management Committee 圖:QHSE管理委員會組織架構圖

AAG Energy's QHSE Management System 亞美能源 QHSE 管理體系

- The president is responsible for approving QHSE objectives, control indicators and work plans; approves QHSE management plan for major risk hazards and important environmental factors.
 公司總裁(最高管理者)負責審批QHSE目標及控制指標及其工作方案(計劃);批准重大風險危害因素和重要環境因素的QHSE管理方案。
- ② The vice president in charge of safety and environmental protection is responsible for reviewing QHSE objectives and control indicators and corresponding work plans, as well as QHSE management plans for major risk and hazard factors and important environmental factors. 分管安全環保副總裁負責審核QHSE目標及控制指標及其工作方案(計劃),審核重大風險危害因素和重要環境因素

分官安全境保副總裁負責審核QHSE目標及控制指標及具工作万案(計劃),審核重大風險危害因素和重要境境因素的QHSE管理方案。

③ The Safety and Environmental Protection Department organizes the preparation of QHSE objectives and control indicators and corresponding work plans, and reviews the management plans for risk factors and important environmental factors with greater risks; supervises and inspects the process in objectives and indicators of each department and implementation of the management plan; regularly evaluate QHSE objectives and indicators, prevent deviations from objectives or indicators and take measures.

安全環保部負責組織編製QHSE目標及控制指標及其工作方案(計劃),審核較大以上風險的危險因素和重要環境因 素管理方案;對各部門目標、指標完成情況及管理方案的實施進行監督、檢查;定期評估QHSE目標和指標,預防 目標或指標發生偏離並採取相應措施。

④ Each department or project department is responsible for breaking down the Company's QHSE objectives and indicators level by level; preparing and implementing the department's management plan for major hazard factors and important environmental factors.

各部門(項目部)負責層層分解公司QHSE目標指標;負責本部門重大危害因素和重要環境因素管理方案的編製和實施。

AAG Energy has established and improved a dual prevention mechanism on the project, revised and completed safety and environment management system documents, and implemented a new version of the work permit management procedure. The Company continuously strengthens risk management of production operations and contractor construction sites, and assists the business department in standardizing each operational link during process control. Additionally, AAG Energy trains employees in QHSE awareness, knowledge, skills, safety risk identification, and environmental factor identification and evaluation by inspecting, supervising, and auditing production, building surface engineering, drilling construction, and other operation sites involving related parties. The Company also exercises, revises, and improves emergency plans to continuously enhance safety and environmental management and promote sustainability in the project's health, safety, and environment.

In 2022, AAG Energy made significant improvements to its Quality, Health, Safety, and Environment (QHSE) responsibility system, and enhanced its QHSE management system. The Company also incorporated newly added and updated regulations and standards, along with inspections from local regulatory authorities, to ensure production and operations are fully compliant and legal. As a result, the project effectively reduced risks to an acceptable level, and introduced 29 revised and new QHSE management systems. The Company's new organizational structure led to updates to the project's QHSE management committee members. Additionally, the post-specific workplace safety accountability system was improved, the quality management system was established, and guality system documents were publicized and implemented. The integration of the quality system into regular work was also carried out. Furthermore, the management of safety and environmental protection was further optimized and improved, emphasizing the importance of basic management in these areas.

2022年,亞美能源完善了公司QHSE責任制,進一步建立健全QHSE管理制度, 結合新增和新修訂的法規和標準規範, 以及地方監管部門的檢查需求,為使生 產運營全面合法合規,降低風險至合理 可接受範圍,新增及修訂質量健康安全 環保管理制度29項。根據公司新的組織 架構,更新項目QHSE管理委員會成員, 完善崗位安全生產責任制,建立質量管 理體系,組織對質量體系文件進行宣 貫,將質量體系建設工作融入到日常工 作,同時進一步優化完善了安全環保基 礎管理工作。

Chart: Optimization and Improvement of Basic Management of Safety and Environment Protection in 2022 表: 2022年度安全環保基礎管理優化完善工作

No. 序號	Optimize and improve the work 優化完善工作	Time 時間
1	Inspected the adequacy, suitability and effectiveness of the Company's QHSE management system, carry out an internal audit, and rectified 53 problems identified. 檢驗公司QHSE管理體系的充分性、適宜性和有效性,組織開展了內部審 核,共發現53項問題,均已完成整改。	June 2022 2022年6月
2	Passed the annual audit on the Company's QHSE management system conducted by DNV • GL, an internationally renowned third-party certification company. 國際著名第三方認證公司挪威船級社(DNV • GL)對公司QHSE管理體系進 行了年度審核,順利通過。	July 2022 2022年7月
3	Mainly built the quality management system, integrated the current HSE system, and established QHSE management system documents, including the revised QHSE Management Manual, QHSE Procedure Document, QHSE Operation Document and Quality Management Procedure. 重點完成了質量管理體系建設,融合當前HSE體系,建立了QHSE管理體系文件,包括修訂《QHSE管理手冊》《QHSE程序文件》《QHSE作業文件》	July-October 2022 2022年7月-10月
4	Organized all departments to complete the identification and evaluation of hazard factors and environmental factors in 2022, set up the <i>List of</i> <i>Major Hazard Factors</i> and the <i>List of Important Environmental Factors</i> , and collect and identify applicable laws, regulations, standards and specifications; There were 484 updated laws, regulations, standards and rules in total, 62 of which were added to all departments in 2022, which covers all aspects of project production and operation management. 組織各部門完成2022年度危害因素、環境因素識別與評價工作,建立《重 大危害因素清單》和《重要環境因素清單》,並對適用的法律、法規、標準規 範進行收集、識別,更新後的法律法規清單共計484部法律法規及標準規 範,其中2022年各部門新增各類法律法規及標準規範62部,整體涵蓋項目 生產及運營管理的各個方面。	October-December 2022 2022年10月-12月
5	Promoted the Company's management, heads and employees from different departments to sign the letter of responsibility of HSE objective management at all levels, and complete the assessment in December. 推進公司管理層、各部門負責人及部門員工層層簽署HSE目標管理責任書, 並在12月完成考核	December 2022 2022年12月

In 2022, AAG Energy engaged a third party company to develop the AAG Energy HSE Information Management Platform, implement the requirements of the new Safe Production Law on the digital management of safe production and improve the efficiency of safe production management. The system had its test run in November. Using the online management platform, employees at all levels of the Company can monitor the safety production status in real-time, reduce the frequency of on-site inspection and supervision by full-time safety management personnel, and improve work efficiency. In addition, the online management platform can also carry out automatic closed-loop follow-up on all potential risks, and carry out real-time dynamic statistics, analysis and early warning on the risk control status. The management can be informed of the on-site risk management and control status and potential risk troubleshooting and treatment status at any time, take safety control measures in time, and adjust the direction of safety management.

2022年,亞美能源委託第三方公司開發 「亞美能源HSE信息管理平台」,落實新 《安全生產法》對安全生產數字化管理的 要求,提高安全生產管理工作效率,並 於11月進入系統試運行階段。利用在線 管理平台,公司各層級員工可實時低。利用在線 管理平台,公司各層級員工可實理人員 安全生產狀況,減少專職安全管理人員 深入現場檢查督導頻率,提高工作效 率。此外,在線管理平台還可對所有監控 思進行實時動態統計、分析和預警。管 理航行實時獲悉現場風險管控狀況和隱 患排查治理狀況,及時採取安全管控措 施,調整安全管理方向。

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Figure: AAG Energy HSE Information Management Platform 圖:亞美能源 HSE 信息管理平台

Case: Safe Production Management of AAG Energy

- In 2022, in terms of standardized safe production, the Panzhuang project and Mabi project carried out selfassessment and issued self-evaluation reports in accordance with the Safe Production Standardization Evaluation Standards for CBM Surface Mining Companies in Jincheng (Trial), completing online system registration and reporting in terms of workplace safety standardization.
- In September 2022, AAG Energy conducted a safety risk assessment for key stations. According to the notice issued by the Jincheng Emergency Management Bureau on Carrying Out Safety Risk Assessments for CBM Mining, the project engaged evaluation agencies to conduct in-depth assessments of various stations in the Panzhuang project, becoming the first CBM companies in Jincheng to complete the safety risk assessment for key stations.
- ③ In the first half of 2022, the Mabi project completed the procedures for reviewing the firefighting design of Station 2. In the second half of the year, it organized the Pre-Evaluation Of Safety Facilities for the Mabi Project's Pigging Station to Guoxin Pipeline Project and expert review. The phased acceptance of safety facilities in the southern area of the Mabi project is currently underway.
- In September 2022, the Panzhuang project engaged a third-party organization to evaluate the safety status of the goaf gathering and transportation pipeline, providing guidance for the systematic, standardized, and scientific management of pipeline safety.

案例:亞美能源安全生產管理

- ① 2022年,在安全生產標準化建設方面,潘莊、馬必項目按照《晉城市 煤層氣地面開採企業安全生產標準 化評審標準(試行)》,開展了公司 安全生產標準化自評工作並出具自 評報告,完成網上系統登記報備。
- ② 2022年9月,亞美能源開展重點場站安全風險評估。根據晉城市應急管理局下發的《關於開展煤層氣開採安全風險評估的通知》,項目委託評價機構對潘莊項目各場站組織開展了深度評估,是晉城市第一批完成重點場站安全風險評估的煤層氣企業。
- ③ 2022年上半年,馬必項目辦理完成 2#站消防設計審核手續,下半年組 織完成《馬必項目清管站至國新管 道工程的安全設施預評價》及專家 評審工作,馬必項目南區安全設施 階段性竣工驗收工作正在進行中。
- 2022年9月,潘莊項目委託第三方 機構對採空區集輸管線安全現狀進 行評價,為管道安全管理的系統 化、標準化和科學化提供指導。

Occupational Health and Safety

AAG Energy is committed to creating a good working environment for its employees and ensuring a balance between work and life. Employee occupational health and safety are our core concerns. AAG Energy strictly complies with laws and regulations such as the *People's Republic of China Law on Safe*, *Production* continuously strengthens the construction and implementation of internal occupational health and safety management systems, implements health check measures, and encourages employees to actively participate in company activities to improve their physical fitness and effectively protect their occupational health and safety.

To strengthen safety production publicity and education, and improve employees' safety awareness and safe production technology level, according to the new *Production Safety Law*, *Safety Training Management Measures*, and the requirements and regulations of governments at all levels for safety production education and training, combined with the Company's health, safety, and environmental protection work plan. In 2022, the Company organized a large number of health, safety, and environmental protection and training activities from a legal certification training, employee onboarding training, health, safety, and environmental protection technical training, regulation/standard/system training, annual training for employees, and contractor foreman training.

職業健康與安全

亞美能源始終致力於為員工打造良好的 工作氛圍,保證員工工作與生活的平 衡。員工的職業健康與安全是我們關注 的核心。亞美能源嚴格遵守《中華人民共 和國安全生產法》等法律法規,持續強化 內部職業健康安全管理制度的建設和實 施,落實健康查體舉措,並鼓勵員工積 極參與公司活動,提升自身身體素質, 切實保障員工的職業健康與安全。

為加強安全生產宣傳教育和培訓,提高 員工安全意識和安全生產技術素質,根 據新《安全生產法》《安全培訓管理辦法》 及各級政府對安全生產教育培訓的規定 和要求,結合公司健康安全環保工作計 劃,公司在2022年度從法定取證培訓、 員工入職培訓、健康安全環保技術培 訓、法規/標準/體系培訓、從業人員 年度培訓和承包商領班培訓等方面,組 織開展了大量健康安全環保教育培訓工 作。



Figure: AAG Energy's Safety Training System 圖:亞美能源安全培訓體系

In 2022, the Company organized 5,309 training sessions focusing on health, safety, and environmental protection, marking a 43% increase in sessions for company employees and a 14% increase for contractor personnel compared to the previous year. We accumulated approximately 34,625 training hours throughout the year, showing a 13% year-on-year increase in training hours for company employees and a 23% increase for contractor personnel. The continuous education and training initiatives have effectively enhanced the awareness, professional knowledge, and operational skills of our personnel on health, safety, and environmental protection. 2022年度公司組織實施健康安全環保相 關培訓總計5,309人次,其中公司員工培 訓人次同比增長43%,承包商人員培訓 人次同比增長14%;全年累計培訓約 34,625學時,其中公司員工培訓學時同 比增長13%,承包商人員培訓學時同比 增長23%;通過持續的健康安全環保教 育培訓,有效提高了人員的健康安全環 保意識、專業知識和作業技能。



Chart: HSE Training by Hours 表:安全環保培訓課時統計

公司安全環保培訓人次統計 HSE training by Employee



Chart: HSE Training by Employees 表:安全環保培訓人次統計

To comply with national laws, regulations, rules, and standards related to occupational hazard prevention and control, AAG Energy has implemented a robust management system to enhance the level of prevention and control and ensure the health and safety of our workers. In line with the Occupational Disease Prevention and Control Law and the Regulations on the Supervision and Administration of Occupational Health in the Workplace, we have developed the Occupational Hazard Prevention and Control Management System, tailored to the Company's unique circumstances.

AAG Energy is committed to ensuring the prevention and control of occupational diseases through effective organizational and institutional measures. To achieve this, the Company has implemented a clear framework that outlines the responsibilities of all employees, from leaders at all levels of the organization to functional and production departments and individual workers. To facilitate this, AAG Energy has established a QHSE management committee that oversees the prevention and control of occupational hazards. The president of the Company provides overall leadership in occupational health work, while various functional departments, production departments, and employees at various positions are expected to fulfill their responsibilities for preventing and controlling occupational hazards. AAG Energy adopts a linear responsibility and territorial management approach, where each department and employee is responsible for identifying and managing occupational hazards within their respective areas of control. By adhering to these responsibilities and working together, the Company can promote a safe and healthy work environment for all and effectively prevent the occurrence of occupational diseases.

亞美能源為貫徹執行國家有關職業病危 害防治的法律、法規、規章和標準,加 強對職業病危害防治工作的管理,提高 職業病危害防治的水平,切實保障勞動 者在勞動過程中的衛生與安全,根據《職 業病防治法》《工作場所職業衛生監督管 理規定》的有關規定,結合公司實際,制 定了《職業病危害防治管理制度》。

亞美能源從組織上、制度上落實用人單 位職業病防治主體責任,使公司各級領 導明確聯業病危害防治的責任,做到層 層有產者司其職,各負其責,做好 業病危害防治工作,為勞動者提供要 衛生害防治管理組織機構 — QHSE管理 委員會,總裁全面領導公司職業衛位 了 職能部門、各生產部門和崗位員 工裝寬直線責任及屬地管理的要求履行 職業病危害防治職責,做好職業危害防 治工作,避免職業病的發生。

Case: Panzhuang Project Occupational Health and Safety Practice

In July 2022, the Panzhuang project engaged a qualified occupational health evaluation agency to complete the Annual Inspection of Occupational Hazard Factors in the Panzhuang Project. In August 2022, the Company received the report on the evaluation of the effectiveness of occupational disease protection facilities, along with the completion acceptance of such facilities. According to the relevant regulations on occupational disease protection, the Company initiated the annual occupational disease health check-up for employees in July, and completed the annual declaration of occupational hazard factors for the project by the end of November.

Case: AAG Energy Occupational Health and Safety Practice

In April 2022, AAG Energy organized the Occupational Disease Prevention and Control Law Promotion Week to promote and implement the Occupational Disease Prevention and Control Law. The Company aimed to increase awareness and understanding of occupational disease prevention and control, and foster a culture of "prevention first before treatment" that prioritizes employee health and safety. The week-long event featured a themed activity plan with the slogan "All for the Health of Workers." The plan included the installation of promotional banners and display boards on-site, and invited staff from the Health and Sports Bureau to conduct occupational health training for all employees. The event also included on-site inspections of occupational health hazards and tracking of their rectification.

案例:潘莊項目職業健康安全實踐

2022年7月,潘莊項目委託有資質的職 業衛生評價機構完成《潘莊項目職業病危 害因素年度檢測》。2022年8月,取得職 業病防護設施控制效果評價報告,完成 職業病防護設施竣工驗收。根據職業病 防護相關法規要求,在7月份啟動員工 的職業病年度健康體檢,並在11月底完 成項目職業病危害因素年度申報工作。

案例:亞美能源職業健康安全實踐

2022年4月,亞美能源為深入宣傳貫徹 《職業病防治法》,進一步普及職業病防 治知識,營造良好氛圍,堅持「預防為 主,防治結合」的工作方針,以廣泛宣傳 《職業病防治法》為主要內容,以保護從 業人員身體健康為根本目的,開展2022 年《職業病防治法》宣傳周活動,策劃以 「一切為了勞動者健康」為主題的活動方 案,現場懸掛宣傳條幅、張貼宣傳展 板,邀請衛體局工作人員開展全員職業 衛生培訓,檢查現場職業衛生隱患並跟 蹤整改。





Figure: Occupational Disease Prevention and Control Law Promotion Week activities 圖:職業病防治法宣傳周活動

In May, the Company conducted occupational health drills such as Emergency Response to Hydrogen Sulfide Leaks and Emergency Response to Heat Stroke Among Personnel on Site to test the emergency response capabilities of on-site personnel. Between June and August, the Company conducted occupational health check-ups for all employees who were exposed to hazards. In July to September, a third-party was invited to conduct occupational hazard factor testing on-site, with the results indicating normal conditions. Finally, in November, the Company completed a declaration of occupational hazard factors, summarizing the occupational health check-ups and onsite occupational hazard factor testing. The Health and Sports Bureau approved the registration.

Building the Culture of Safety

In order to enhance employees' awareness and importance of health, safety, and environmental protection work, as well as to maintain and improve employees' enthusiasm for those work, and to promote a culture of health, safety, and environmental protection within the Company, the Safety and Environmental Protection Department of AAG Energy organized a variety of health, safety, and environmental protection activities in 2022. These activities were based on national and local government requirements for conducting safe production month activities, as well as the Company's past successful practices. The specific activities included: 公司在5月份開展《硫化氫洩漏現場應急 處置演練》《站場人員中暑現場應急處置 演練》等職業衛生演練,檢驗現場人員職 業衛生的應急救援能力。6月到8月對公 司全體接害人員進行職業健康體檢。7-9 月邀請第三方對現場職業危害因素進行 檢測,檢測結果無異常。11月公司進行 職業危害因素申報,對職業健康體檢和 現場職業危害因素檢測進行總結,衛體 局同意備案。

安全文化建設

亞美能源為提高員工對健康安全環保工 作的重視,保持和提高員工參與公司健 康安全環保工作的熱情,提升健康安全 環保意識、知識和技能,促進公司健康 安全環保文化建設,根據國家和地方政 府關於開展安全生產月活動及其他活動 的要求,結合公司以往的良好實踐,安 全環保部在2022年組織開展了豐富的健 康安全環保活動,具體如下:

Chart: Safety-Related Activities in 2022 表:2022年度安全活動

No. 序號	Activities 活動內容	Time 活動時間
1	Occupational disease prevention week 職業病防治宣傳周活動	25 April 2022 to 1 May 2022 2022年4月25日–5月1日
2	Safe Production Month, including warning education, emergend drills, quiz competitions, Safety Day 2022 event, hidden danger investigation activities, etc.	
	安全生產月系列活動(警示教育、應急演練、答題競賽、2022年 全日活動、隱患排查活動等)	安
3	Safety management review of drilling contractors 鑽井施工承包商審核活動	August 2022 to September 2022 2022年8月-9月
4	Safety management review of the surface construction contract 地面建設工程承包商審核活動	ors September 2022 to October 2022 2022年9月-10月
5	Fire Fighting Month, such as fire safety promotion, fire safety training, fire safety knowledge quiz with prizes, and fire escape drills.	November 2022 2022年11月
	消防月系列活動(消防宣傳、消防培訓、消防知識有獎競答、消 逃生演練等活動)	<u>رم</u>
6	Traffic safety activities 亞美能源交通安全活動	November 2022 2022年11月
	ergy has always encouraged employees to observe unsafe practices and materials' unsafe status. In 2022.	公司鼓勵員工從人的不安全行為、物的 不安全狀態兩方面進行行為安全觀察。

people's unsafe practices and materials' unsafe status. In 2022, employees submitted 12,169 safety observation forms online. All our employees' participation and intervention can help discover and timely handle problems, so as to effectively avoid all kinds of workplace safety accidents.

Through a wide range of health, safety, and environmental activities, knowledge dissemination, and behavior safety observation, AAG Energy has increased the attention and participation of our employees in health, safety, and environmental work. This has effectively enhanced the safety and environmental awareness, knowledge, and abilities of our employees and contractor staff, promoting the practice of the "win-win cooperation and mutual improvement" management philosophy between the Company and contractors. AAG Energy has created a strong safety culture and promoted the building of the Company's health, safety, and environmental culture.

公司鼓勵員工從人的不安全行為、物的 不安全狀態兩方面進行行為安全觀察。 2022年公司員工累計在線提交行為安全 觀察卡12,169張,通過全員的參與和干 預,推動問題的發現和及時處理,從而 有效避免各類生產安全事故發生。

通過大量的健康安全環保活動、知識宣 傳和行為安全觀察,提高公司員工對健 康安全環保工作的重視和參與熱情,有 效增強公司員工及承包商員工的安全環 保意識、知識和能力,推動公司與承包 商「合作共贏,共同提高」管理思想的踐 行,營造濃厚的安全文化氛圍,促進公 司健康安全環保文化建設。

Case: AAG Energy launched safety culture answer activity

In 2022, to improve the safety awareness and skills of all employees and develop a culture of safety, AAG Energy continued to carry out weekly toolbox-based knowledge competitions to encourage employees to keep enriching their knowledge. Daily question-answering activities — "Do you keep safety today?" — still went on. In addition, AAG Energy released 48 issues of toolbox safety knowledge throughout the year and organized 3 toolbox safety tests. Nearly 90% of employees joined the answering part and 88% of them gave all the right answers.

Contactor Safety Management

Under the concept of "long-term cooperation and mutual benefit", AAG Energy strengthened the safe production management of contractors. Contractors are an important part of the Company's production and operation, and their management affects the Company's performance, which is an important manifestation of QHSE management. By reviewing the qualifications of contractors, selecting their capabilities, market access, on-site supervision, and performance appraisal, we ensure that contractors uniformly implement the Company's management standards and promote the improvement of their management. We evaluate the QHSE and ESG performance and performance of contractors, select qualified contractors, and supervise and manage the QHSE process of contractors to ensure compliance with QHSE management regulations and requirements.

案例:亞美能源持續開展安全文化答題 活動

2022年,亞美能源為提高全員安全意識 和技能、推動公司安全文化建設,持續 開展周工具箱知識評選活動,鼓勵員工 不斷增強知識積累。「今天您安全了 嗎?」每日答題活動持續開展。此外,亞 美能源全年累計發佈48期工具箱安全知 識材料,組織進行3次工具箱知識測試。 該活動全員答題率達90%,答題通過率 達88%。

承包商安全管理

亞美能源秉持「長久合作、互利共贏」的 理念,持續完善承包商的安全生產管理 工作。承包商是公司生產經營的重要組 成部分,管理水平影響著公司績效,是 QHSE管理水平的重要體現。通過對承 包商的資質審查、能力遴選、市場准 入、現場監管、績效考核,確保承包商 統一執行公司的管理標準,並促進其管 理水平的提升。我們對承包商的QHSE 和長G現進行評估,選擇合格的承包 商,並對承包商的作業過程進行QHSE 監督管理,確保符合QHSE管理規定和 要求。
The revision of the ESG Management System for Suppliers in 2022 2022年度供應商 ESG 管理制度修訂內容

• Incorporated ESG risks into supplier assessment and evaluate ESG performance in the supplier selection process.

在供應商考察環節,將ESG風險納入考察因素,評估ESG表現

- Added ESG-related evaluation information to the bid document template 在招標文件模板中增加ESG相關評審信息
- Set ESG-related performance evaluation parameters in the supplier performance assessment 在供應商績效考核中設置 ESG 相關的績效評估參數
- Provided ESG training to 100% of suppliers who sign contracts for two projects 針對兩項目簽訂合同的供應商100%開展ESG方面培訓
- Added supplier ESG code of conduct to the text attachment of standard contract 在合同標準文本附件中增加供應商 ESG 行為準則
- Ensured that 90% of construction suppliers are certified by ISO 9001 for quality, environment, and occupational health and safety systems.
 確保施工類供應商通過ISO 9001 質量、環境、職業健康安全體系認證的比例達到90%

Safety Management Control Process for AAG Energy Contractors 亞美能源承包商安全管理控制流程

Selection of Contractor 承包商的選擇

• Contractor admission is implemented according to the procedures of application, preliminary review, assessment, and admission. Contractors with good performance in QHSE and ESG will be given priority admission.

承包商准入按照申請、初審、考察、准入的程序實施,對在QHSE和ESG方面表現較好的承包商優先准入;

- The procurement department organizes relevant departments to conduct on-site inspections of qualified contractors and verifies whether the supplier complies with the AAG Energy Supplier ESG Code of Conduct, and completes the Supplier Admission Report.
 採購部組織相關部門對初審合格的承包商進行實地考察以及審核供應商是否符合《亞美能源供應商ESG 行為準則》,並完成《供應商准入報告》;
- The procurement department negotiates contract terms with contractors, drafts the contract text, initiates confirmation of the final draft according to the Company's internal Contract Management Measures signing procedure, and submits it to relevant signatories for signing and sealing, and then implements it.
 採購部組織與承包商進行合同條款談判,並起草合同文本,發起合同終稿確認,按照公司內部《合同管理辦法》簽署程序,交由相關簽署人簽署蓋章,並予以實施;
- The procurement department is responsible for adding contractors who have passed the admission process to the Company's supplier database. Each year, various business departments and safety and environmental protection departments organize mid-year and year-end evaluation assessments of contractors and complete the "Supplier Performance Evaluation Summary Report", which is included in supplier performance management.
 採購部負責將通過准入程序的承包商加入到公司的供應商庫中,每年組織各業務部門和安全環保部門對

保照部員員將短週准八柱序的承包商加八到公司的供應商庫中,每午組織谷未務部门和安主爆保部门到 承包商進行年中和年終評價考核,並完成《供應商績效評價總結報告》,納入供應商績效管理;

The procurement department signs the Environmental Health and Safety Standard Annex with the contractor at the same time as the contract and imposes QHSE influence on the contractor in writing.
 採購部在和承包商簽訂合同的同時,簽訂《環境健康安全的標準附約》作為合同附件,向承包商明確 QHSE標準。

Contractor Preparation Before Commencement 承包商開工前準備

- Prepare project "construction organization design" or "construction plan", or "QHSE plan", "QHSE operation manual", "QHSE checklist" and "emergency plan"; conduct drawing review and technical disclosure; prepare all relevant documents and records required for the project; organize employees to learn QHSE management regulations, and provide pre-job QHSE education to all employees.
 編製項目「施工組織設計」或「施工方案」,或「QHSE計劃書」、「QHSE作業指導書」、「QHSE檢查表」及「應急預案」; 圖紙會審和技術交底; 準備項目需要的所有相關文件和記錄;組織員工學習QHSE管理規定,對全員進行作業前QHSE教育;
- Sign the QHSE responsibility agreement; understand the relevant policies of the Company's QHSE management system, and be familiar with the Company's safety management procedures; inspect and maintain vehicles, equipment, and tools used to meet the Company's QHSE requirements; 簽訂QHSE責任書; 了解公司QHSE管理體系的有關政策,熟悉公司安全管理程序;檢查、維修所用的 車輛、設備、機具,滿足公司的QHSE要求;
- Provide safety and environmental protection equipment and facilities that meet the site requirements. 配備符合現場要求的安全、環保設備設施。

Contractor Construction Operation Process Management 承包商施工作業過程管理

Contractors should strictly comply with national and local laws and regulations, industry norms, contract provisions, and the Company's QHSE management system requirements during the construction process. 承包商在施工作業過程中應嚴格遵守國家和地方法律法規、行業規範、合同約定及公司的QHSE管理體系要求。

Inspection and Supervision

檢杳監督

問題糾正預防

- The management personnel of each project department, department, and contractor should regularly enter the site to supervise and inspect the QHSE performance of the contractor's construction personnel, timely discover potential accident hazards, correct and record their incorrect QHSE behaviors, eliminate the "Three Violations", and prevent accidents.
- 各項目部、各部門、承包商的相關管理人員應經常進入現場對承 包商施工人員的QHSE表現進行監督檢查,及時發現潛在的事故 隱患,糾正、記錄其錯誤的QHSE行為,杜絕「三違」現象,防止 事故的發生。
- The supervision and inspection include whether the construction personnel and operators work according to the prescribed work location, work object, work content, and work procedures, whether the QHSE behavior of the construction personnel and operators meets the QHSE requirements, whether the use and safety status of construction equipment and tools comply with relevant regulations, the implementation of the "construction organization design", "construction plan", "QHSE plan", and "QHSE operation manual" for the engineering project, ESG performance, and other situations.
- 監督檢查的內容包括施工人員和作業人員是否按規定的作業地點、 作業對象、作業內容和作業程序工作、施工人員和作業人員的 QHSE行為是否符合QHSE要求、施工設備、機具的使用及安全 狀態是否符合有關規定、工程項目「施工組織設計」、「施工方案」、 「QHSE計劃書」和「QHSE作業指導書」的執行情況、ESG表現等 情況。
- Problem correction and prevention
 Each project department, department or engineering supervisor shall issue a rectification notice on the problems found. The contractor should rectify timely and report the progress to the engineering departments, which shall review and verify the rectification of the contractor.
 - 對監督檢查中發現的問題,由各項目部、各部門或工程監理下發 整改通知。承包商應及時整改,並將整改完成情況報告至工程主 管部門,工程主管部門應對承包商整改的情況進行復查驗證。

Coordination and Communication	• The project management department should establish operational coordination with the contractors to ensure that they are aware of the Company's QHSE requirements in a timely manner. The contractors should organize their staff to carry out QHSE activities, and convey the QHSE requirements proposed by the Company, and other related information. During the operation, the relevant personnel of the contractor unit should participate in the project coordination meetings organized by the Company, and report the progress of the engineering project, QHSE situation, and the next steps of the operation arrangements, QHSE measures, and matters that need to be coordinated.
協調交流	 工程主管部門應與承包商建立作業協調聯繫,使承包商及時了解 公司QHSE要求。承包商應及時組織員工開展QHSE活動,傳達 公司提出的QHSE要求等信息。作業期間,承包商單位的相關負 責人應參加公司組織的相關項目協調會,匯報工程項目的工作進 度、QHSE情況以及下步的作業安排、QHSE措施和需要配合的事 項。
Emergency Response	• Contractors should develop targeted "emergency plans" based on the engineering project situation, which should include emergency handling procedures, emergency disposal measures, designated escape routes, methods for emergency gathering areas, and the way to count the number of people in the accident, and should be linked with the department or company's emergency plan. Contractors should organize project construction personnel for emergency drills and keep records of the drills.
應急處理	 承包商應根據工程項目情況編製有針對性的「應急預案」,內容應 包括應急處理程序、應急處置措施、指定逃生路線、緊急集合區 和在事故中清點人數的辦法等內容,並與部門或公司應急預案相 銜接。承包商應組織項目施工人員進行應急演練,並保存演練記 錄。
Accident Reporting	• Contractors should report all accidents and near misses related to the contractor's site work to their project management department and engineering supervisor. The accident report should include the accident time, location, the course of the accident, direct and indirect causes, corrective measures, corrective person in charge, corrective timeline, and training and education status.
事故報告	 承包商應向其工程主管部門和工程監理報告所有與承包商現場工 作有關的事故和未遂事件。事故報告內容包括:事故時間、事故 地點、事故經過,直接和間接原因,整改措施、整改負責人、整 改時間表,培訓教育情況等。

Non-Conforming Product Control	•	When the construction quality is found to be non-conforming, it should be corrected in accordance with the requirements of the Non-conformance, Corrective and Preventive Measures
		Management Program.
不合格品控制	•	當施工質量出現不合格時,應根據《不符合、糾正與預防措施管理 程序》的要求進行整改。
Engineering Completion	•	The project management department is responsible for organizing the acceptance of the engineering project and filling

工程竣工

- out the completion report. For the projects that fail acceptance, they must be handled in accordance with the Non-conformance, Corrective and Preventive Measures Management Program. 工程主管部門負責組織對工程項目進行驗收,並填寫竣工報告,
- 工程主管部門負責組織對工程項目進行驗收,並填寫竣工報告, 對於驗收不能通過的項目,須按照《不符合、糾正與預防措施管理 程序》的要求進行處理。
- The engineering supervisor and contractor are responsible for submitting the completion materials of the project to their project management department. After the project management department completes the acceptance, the completion materials of the project will be submitted to the Company's archives. The QHSE's three simultaneous inspections of the engineering project completion shall be carried out in accordance with the New Construction and Expansion Project Three Simultaneous Management Program.
- 工程監理、承包商負責向其工程主管部門提交項目的竣工資料, 工程主管部門組織驗收合格後,將項目的竣工資料提交公司檔案 室保存;工程項目的QHSE三同時驗收參照《新改擴建項目三同時 管理程序》執行。
- The engineering project completion quality management shall be carried out in accordance with the *Quality Management Program*.
- 工程項目竣工質量管理按照《質量管理程序》執行。

In 2022, AAG Energy had about 70 major contractors, including 45 engineering contractors. The maximum construction workforce was approximately 1,930 people, and the cumulative safety manhours reached 3,867,348 hours, an increase of 44% compared to the previous year. The projects involved 3D seismic, pre-drilling engineering, drilling, fracturing, downhole operations, nitrogen unblocking, standardized construction of well sites, construction of well station pipelines, and mud cementing.

2022年亞美能源主要承包商約70家,其 中工程類承包商45家,高峰期施工人數 約1,930人,累計安全人工時達3,867,348 小時,同比增長44%。項目涉及三維地 震、鑽前工程、鑽井、壓裂、井下作 業、氮氣解堵、井場標準化建設、井站 管道建設、泥漿固化等。



承包商人工時統計

Chart: Man-Hour of Contractors 表:承包商人工時統計

2.2 Co-create a Green Environment

Climate change is a major global challenge that humanity is facing today. AAG Energy has established a climate change governance system and carried out climate change risk and opportunity identification work to comprehensively enhance the Company's ability to respond to climate change. We respond to the national carbon neutrality goals and incorporate low-carbon and zero-carbon development into our strategic planning, coordinate the layout of low-carbon development paths, and fully demonstrate our determination and efforts to achieve low-carbon development. AAG Energy adheres to the concept of green development, fully complies with the national carbon neutrality goals and energy transformation trends, actively plans and implements green action plans, continuously reduces the negative impact of its own production and operation, and strives to contribute to the environmental benefits of the value chain, practicing corporate environmental responsibilities in an allround and multi-dimensional way. As of 31 December 2022, AAG Energy has not experienced any ecologically significant environmental protection incidents.

Response to Climate Change

AAG Energy continuously improves the Company's adaptability to climate change, fully responds to the impact of climate change on the Company's business operations, grasps the industry development opportunities brought by climate change, and creates long-term and stable corporate value to contribute to the harmonious development of energy, economy, society, and environment.

AAG Energy continues to aspire to become the world's leading, most enduring clean energy company for today and tomorrow. We attach great importance to the issue of climate change. Referring to the guidelines of the Task Force on Climate-related Financial Disclosures (TCFD) and the Hong Kong Stock Exchange's "Guidelines for Climate Information Disclosure", we have established a systematic climate change governance system based on our own business and operational characteristics, proactively identify and actively respond to the various transformation risks and physical risks that the Company faces due to climate change, and formulate targeted measures to address climate risks, and coordinate the layout of low-carbon development paths.

2.2 共創綠色環境

氣候變化是當今人類面臨的重大全球性 挑戰,亞美能源建立起氣候變化管治體 系,開展氣候變化風險與機遇識別 作,全面提升公司應對氣候變化間 力。我們響應刻家雙碳目標,將「低碳 力。我們響應入戰略規劃,統籌低低碳 人戰嚴不,全面展示我們實持緣色所能、 電子,之為面展。我們 裏路徑,全面展示我們 重持續降低自身生產 個 之方位多維度 路行企業環境 責任。 截 至2022年12月31日,亞美能源未發 生造成嚴重影響的生態環保事件。

應對氣候變化

亞美能源不斷提升公司對氣候變化的適 應能力,充分應對氣候變化對於公司業 務運營帶來的影響,把握氣候變化帶來 的行業發展機遇,以創造長期穩定的企 業價值,為促進能源、經濟、社會與環 境的和諧發展貢獻力量。

亞美能源持續以「勵志成為國際領先的 永續發展的清潔能源偉大企業」為願景, 高度關注氣候變化議題。我們參考氣候 相關財務信息披露工作組(TCFD)的指引 與香港聯交所《氣候信息披露指引》,結 合自身業務及運營特點,系統性建立起 氣候變化管治體系,主動識別與積極應 對公司因氣候變化所面臨的各項轉型風 險與實體風險,制定氣候風險專項應對 舉措,統籌佈局低碳發展路徑。

Climate Governance

Based on the Company's ESG organizational structure, AAG Energy has established a comprehensive climate risk governance system involving different levels from the Board to the executive level to promote the implementation of the Company's climate strategy and climate risk management affairs.

氣候治理

亞美能源以公司ESG工作組織架構為基礎,建立起董事會至執行層面的全方位氣候風險管治體系,以推進公司氣候戰略及氣候風險管理相關事務的實施與落地。





The Board

As the highest responsible body for ESG work of the Company, it shoulders the top responsibility for the Company's response to climate change-related matters.

ESG Working Group

As the management body of the Company's ESG work, it comprehensively leads and manages the climate risk management within the Company and its subsidiaries, regularly discuss climate change-related matters and monitors climate risks, supervises; besides, the ESG working group also reviews the Company's climate change response work and the achievement of climate objectives, regularly reports to the Board and proposes suggestions to support the Board's supervision and decision-making on climate change-related matters. Its specific responsibilities include:

- Assess, discuss and monitor climate-related issues and risks of the Company every half a year, ensure the proper risk identification and assessment results and incorporate them into the Company's development strategy;
- (2) Regularly supervise the Company's policies, plans, and performance related to climate change to ensure the climate strategies and measures are applicable and proper;
- (3) Set climate targets, including carbon emission reduction targets, and regularly review the completion of climaterelated targets to assess the effectiveness of climate targets and measures;

董事會

作為公司ESG工作的最高負責機構,對 公司應對氣候變化相關事宜負最高責任。

ESG工作組

作為公司ESG工作的管理機構,全面領 導、管理公司及附屬公司範圍內的氣候 風險管理工作,定期討論氣候變化相關 事宜並監控氣候風險,監管審閱公司氣 候變化應對工作及氣候目標達成情況, 定期向董事會匯報並提出建議,以支持 董事會對於氣候變化相關事宜的監管與 決策,具體職責包括:

- (1) 每半年評估、討論、監察公司氣候 相關議題及風險,確保風險識別及 評估結果合理性,並將其納入公司 發展策略;
- (2) 定期監管公司有關應對氣候變化的 政策、計劃及表現,以確保氣候策 略及措施的適用性及合理性;
- (3) 制定包括碳減排目標在內的相應氣 候目標,定期審閲氣候相關目標的 完成情況,以評估氣候目標及措施 的有效性;

ESG Executive Management Team

Responsible for overall coordination of the Company's regular climate risk management, and has an ESG executive office. Specific responsibilities include:

- Organize and coordinate all ESG special working groups and relevant departments to carry out climate risk identification and assess the impact of risks;
- Assist the ESG working group to make climate action plans for the Company and set relevant climate targets;
- Regularly disclose the work and risk identification results of addressing climate change to stakeholders;
- (4) Coordinate internal and external resources, regularly provide training on climate change response, ensure that the Board and the Company's business departments have the necessary expertise and skills, improve the Board's ability to supervise climate-related issues and risks, and ensure the Company's overall resilience to climate risk.

Climate Strategy

AAG Energy has preliminarily identified the risks and opportunities brought by climate change to its business from three aspects: entity risks, transformation risks, and market opportunities. The Company has taken countermeasures to integrate climate risk identification and management into its existing risk management system.

ESG執行管理組

負責統籌協調公司日常氣候風險管理工 作,下設ESG執行辦公室,具體職責包 括:

- (1) 組織、聯動各ESG專項工作組及相 關部門,開展氣候風險識別工作, 評估各類風險影響;
- (2) 協助ESG工作組制定公司各項氣候 行動計劃並訂立相關氣候目標;
- (3) 定期向利益相關方披露應對氣候變 化工作內容與風險識別結果;
- (4) 協調內外部資源,定期提供應對氣 候變化能力培訓,確保董事會及公 司各業務部門具備必需的專門知識 及技能,提升董事會對氣候相關議 題、風險監管能力,確保公司整體 氣候風險適應力。

氣候戰略

亞美能源結合自身業務特點已從實體風險、轉型風險、市場機遇三個方面初步 識別氣候變化給企業帶來的風險與機 遇,並開展應對行動,將氣候風險識別 與管理工作融入現有風險管理體系。

	Risk 風險		Impacts 影響描述	Response 應對
Transformation risks 轉型風險	Policy risks 政策風險	Energy structure and energy use 能源結構及能源 使用	 The national energy structure will shift to non-fossil energy in the long run 長期來看國家能源結構將轉向非 化石能源 Carbon neutrality will promote the transition of China's development powered by fossil energy to non-fossil energy, which is of great significance for China to achieve energy independence and ensure energy security. In 2019, the Ministry of Ecology and Environment issued the <i>Implementation Guides for</i> <i>Carbon Neutrality of Large-Scale</i> <i>Operation (for Trial Implementation)</i>, which aims to offset GHG emissions of large-scale operations by trading carbon quotas, and carbon credits or carbon sinks generated by new forestry projects 碳中和將推動我國發展從化石能源為主 向非化石能源過渡,對中國實現能源獨 立、確保能源安全具有重要意義。2019 年生態環境部發佈了《大型活動碳中和實 施指南(試行)》,為較大規模聚集行動通 過購買碳配額、碳信用的方式或通過新 建林業項目產生碳匯量的方式抵銷大型 活動的溫室氣體排放量 	 Accelerate the establishment of a low-carbon, clean and efficient new energy supply system to support high-quality economic development 應加快建立低碳清潔的高效新能源供應體系,支持經濟高質量發展 Speed up the introduction or development of clean energy technologies and equipment 加快引進或研發清潔能源技術及設備的進程 Establish a committee to report on sustainable development and other contents, and set targets such as low-carbon emission reduction 建立委員會,將可持續發展等相關內容進行報告,以及設定低碳減排等目標
		Carbon trading market 碳交易市場	 The state continues to improve the carbon emission trading market and operating mechanism, and the Company may be included in the carbon emission trading market, increasing operating costs and low-carbon investment costs. At the same time, the quota and carbon price will also bring the risk of increased performance costs to the Company 國家不斷完善碳排放交易市場及 運行機制,且公司可能會被納入 碳排放交易市場,導致公司的運 營成本、低碳化投資成本增加, 同時,相關配額分配、碳價格等 也會為企業帶來履約成本增加的 風險 	 Actively promote the transformation of low-carbon production and operation 主動推進低碳化生產運營的轉型 Long term realization through transformation to digitalization and electrification 通過向數字化和電氣化轉化的途徑 來進行長期實現 Continue to optimize the development of the carbon market and local carbon market 做好與國家碳市場的銜接,繼續優化本地碳市場的建設

Risk 風險		Impacts 影響描述	Response 應對
Legal risks 法律風險	Compliance risks • 合規風險 •	In the long run, the international political and economic changes and the tighter domestic and international laws related to climate change may increase the Company's compliance risk, including the difficulty of getting approval 長期來看,國際政治經濟局勢變 化,國內和國際關於氣候變化相 關的法律制定趨向嚴格,可能會 使得公司的合規風險增加,包括 相關審批的難度加大等	Strictly abide by laws and regulations, and disciplines 嚴格遵守相關法律法規,遵紀守法
	Lawsuits • 訴訟風險	During the routine operation, the aging infrastructure, land use and environmental pollution of on-site construction, and disputes over information disclosure may lead to lawsuits against the Company 在企業日常運營的過程中,基礎 設施老化、現場施工的土地佔用 和環境污染、信息披露存在爭議 等情況可能會導致公司產生訴訟 事件	 Promote the Company's information disclosure to be more transparent and accurate 推動公司信息公開披露的透明度準確度 Timely check the potential risks in the project and take measures to reduce GHG emissions 及時排查項目中的潛在風險,採取降低溫室氣體排放的相關措施 Handle disputes in accordance with laws and regulations

• 依法合規處理相關糾紛事件

	Risk 風險	Impacts 影響描述	Response 應對
Techno risks 技術風	reduction	 In the long run, investing in low-carbon projects with great potential meets the needs of the Company to deal with climate change and respond to the national carbon peak and neutrality targets 長期來看,投資具有重大潛力的 低碳項目符合企業應對氣候變 化、響應國家「雙碳」目標的需要 	 Invest in the development of renewable energy to reduce direct or indirect GHG emissions during operation 投資開發可再生能源,以減少運營過程中直接或間接溫室氣體排放
	Technology R&D 技術研發	 In the context of global climate change, low-carbon technology, the core driving force for the low-carbon economy, has become a key factor for the Company to develop the low-carbon economy 在全球氣候變化的背景下,低碳技術作為低碳經濟發展的核心動力,已經成為企業發展低碳經濟的關鍵因素 	 Increase technological research and investment in research 加大技術研究,增加科研投入 Track the development and application of new technologies in the industry 關注行業內新技術的發展和應用 Analyze the feasibility of technological replacement 分析技術更換的可行性 Establish experimental units for energy conservation and consumption reduction technology to reduce large-scale losses caused by the technological replacement

成立節能降耗技術試驗點,降低因

技術更換造成的大規模損失

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Risk 風險		Impacts 影響描述	Response 應對
Market risk 市場風險	Shifting consumer preference 消費者偏好轉變	The national carbon peak and neutrality targets will lead to changes in customer preferences and the demand for more low-carbon energy solutions. The failure to meet the customer's demand in time will lead to the loss of revenue and market share 國家雙碳目標背景下將導致客戶 偏好轉變,產生更多低碳能源解 決方案的需求,若亞美能源未能 及時把握客戶需求,將導致收入 與市場份額的損失	 Integrate biomass, solar energy, geothermal and other low-carbon energy based on local conditions to meet the needs of customers for low-carbon solutions 因地制宜融合生物質、太陽能、地熱等低碳能源,匹配客戶低碳方案的需求 Develop low-carbon and energy-saving technologies 開發低碳節能技術 Cultivate and introduce technological innovation talents and increase the research on energy conservation and consumption reduction technology 培養和引進技術革新人才,加大節能降耗技術研究 Replace or upgrade equipment and facilities and phase out highly energy-consuming equipment 更換或升級設備設施,淘汰高耗能設備
	Extreme climate change affects product supply 極端氣候變化影 響產品供應	Affected by extreme weather, in case of warmer winter, the demand for CBM in heat supply will generally decrease, and will have a direct impact on the turnover of the Company 受極端天氣影響,若出現暖冬等氣候現象,供暖季節的煤層氣需 求普遍降低,對於企業的營業額 產生直接影響	 Prepare emergency plans for extreme weather in advance 提前制定極端天氣應急預案 Improve the resilience of facilities and equipment to extreme weather 提升設施設備面對極端天氣的抵御 能力

	Risk 風險			Impacts 影響描述	Response 應對
	Reputational level risks 聲譽風險	Investor concerns 投資者關注	•	Investors and other stakeholders pay more attention to climate change, the Company's poor performance in environmental protection and carbon emission reduction will not only affect its public image but also will be distrusted and unfavoured by investors and customers 随著投資者和其他利益相關方對 氣候變化重視增加,公司在環保 與碳減排方面的不良表現不僅會 影響公眾形象,也會導致投資者 和客戶的不信任、不支持	 Increase the Company's attention to climate change, including strengthening the identification, management and plan of climate change risks 加大公司對氣候變化的重視程度,包括加強對氣候變化風險的識別、管理和預案 Establish all-round communication channels with stakeholders, communicate regularly with stakeholders and feed back the Company's climate actions in a timely manner 與利益相關方建立全方位的溝通渠道,定期與利益相關方溝通,及時反饋公司在氣候問題方面的行動
		Corporate image 公司形象	•	In the long run, with the public's increasing attention to climate change, whether the Company adopts low-carbon and environmentally-friendly operation models is directly related to the corporate image 長期來看,隨著社會大眾對氣候 變化的關注,企業是否採取低碳 環保的運營方式直接關係到企業 形象的建設	 Continuously strengthen the Company's environmental management, control GHG emissions and pollutant emissions, and ensure better environmental performance 不斷加強公司環保方面的管理工 作,做好溫室氣體排放控制和污染 物排放,確保環境方面的表現較好 Carry out publicity on environmental protection and energy conservation, and establish communication and display channels with the public 開展環保節能宣傳,建立與社會大 眾的溝通和展示的渠道
Physical risks 物理風險	Emergency risks 急性風險	Typhoon 台風	•	Destroy mining equipment, affect the stability of the mining business, threaten the personal safety of employees and cause loss of the Company's property 破壞開採設備,影響開採業務穩 定性,威脅員工人身安全,並造 成公司財產安全受損	
			•	A shutdown during typhoons may lead to business interruption and other issues, involving breach of contract, compensation and legal liability 台風期間停產可能導致業務中斷 等問題,涉及違約、賠償及法律 責任	 Improve the wind resistance of equipment 提升設備抗風能力 Purchase commercial insurance 購買商業保險

Risk	Impacts	Response
風險	影響描述	應對
Extreme rainfall/ flood 極端降雨/洪水 ・ ・ ・ ・	Extreme rainfall and floods may threaten the safety of production equipment and personnel and interrupt business極端降雨與洪水可能會導致生產 設備及人員安全受到威脅,業務 產生中斷Road collapse, wall collapse, landslide, debris flow, etc., as well as displacement, settlement or fracture of well site pipeline under external force, will result in safety accidents 道路塌方、圍牆倒塌、山體滑 坡、泥石流等,并場管道受外力 發生移位、沉降或斷裂漏氣,造 成安全事故The well site located in the low-lying ground will increase the risk of flood, damage production facilities and equipment, affect supply stability, and cause 	 Prepare flood and heavy rainfall emergency plans in advance to ensure the safety of personnel and property and reduce losses caused by business interruption 提前制定洪水/強降雨應急預案, 保障人員及財產安全,降低業務中 斷造成的損失 Improve the flood resistance of the equipment 提升設備抗洪水能力 Purchase commercial insurance 購買商業保險

Risk 風險		Impacts 影響描述	Response 應對
	Extreme heat • 極熱天氣 •	risks of employees, and easily cause heatstroke 增加員工健康安全風險,易導致 中暑 The rising temperature will	 Prepare extreme heat and coldness emergency plan in advance to ensure the safety of personnel and property 提前制定極熱/極寒天氣應急預 案,保障人員及財產安全
	•	increase the cost of facility maintenance and the risk of the well site fire 氣溫升高增加設施維修保養成 本,增加井場火災風險	 Improve the extreme heat and coldness resistance of the equipment 提升設備應對極熱/極寒氣候能力 Increase the frequency of equipment maintenance 提高設備維護頻率
	Extreme coldness • 極冷天氣	Increase the health and safety risks of employees, make the equipment vulnerable to damage in extremely cold weather, and increase the cost of facility maintenance 增加員工健康安全風險,極寒天 氣使設備易受損,增加設施維修 保養成本	
Chronic risks 慢性風險	Climate change • 氣候變化 •	Global warming increases the risk of the heat wave, drought and fire, and raises the cost of equipment maintenance 全球變暖增加熱浪、干旱、火災 的風險,增加設備維護成本	 Prepare fire/heavy rainfall emergency plans in advance to ensure the safety of personnel and property 提前制定火災/強降雨應急預案, 保障人員及財產安全
		In case of warm winter, the demand for heat in winter will be reduced, which will have a direct impact on income 如出現暖冬等氣候現象,冬季供 暖需求降低,對收入產生直接影 響	 Increase the frequency of equipment maintenance to ensure the safe and normal operation of the equipment 提高設備維護頻率,保證設備安全 正常運行
	•	increased rainfall, affecting normal drilling operations and increasing the costs of equipment maintenance	 Reasonably choose commercial insurance 合理選擇商業保險 Reasonably plan the market 合理規劃市場
	•	The maintenance and insurance costs of well site equipment in extreme weather increase 井場設備在極端天氣的維護、保 險費用增加	

53

Climate Risk Management

Based on the results of regular risk assessment, AAG Energy incorporated climate risk management into its overall risk management system when formulating business strategy, and systematically and scientifically manage the climate risks.

In 2022, AAG Energy organized all departments to complete completed the identification and evaluation of both hazard and environmental factors, culminating in the establishment of a comprehensive the *List of Major Hazard Factors*. The Company's meticulous risk identification process involved the identification of 177 low risks, 66 general risks, and 12 major risks, with an additional high risk identified via job hazard analysis (JSA). To further ensure safety, a safety check list (SCL) was conducted, revealing 40 low risks, 46 general risks, and 5 major risks. Additionally, the environmental factor assessment method was employed, resulting in the identification of 97 general environmental impacts and 5 critical environmental impacts.

We launch climate action in terms of mitigation and adaptation to fully address the impact of climate change. For details, refer to the chapter "Resource Use" in this chapter.

Indicators and Targets

Based on our peers' environmental targets at home and abroad as well as the overall goal of achieving a carbon peak in 2030 and carbon neutrality in 2060, AAG Energy fully evaluates their potentials for emission reduction by introducing renewable energy, green power certificates and carbon offset, and set the long-term goal of zero-carbon emission in 2060 and 2.5% annual reduction of carbon emission intensity. On this basis, AAG Energy has formulated short-term goals for 2025 and medium-term goals for 2030 respectively:

Short-term target: to reduce the Scope I and Scope II GHG emission intensity (tCO_2e per million cubic meters of natural gas) by 10% by 2025 from the baseline year of 2021

Medium-term goal: to reach the Scope I and Scope II GHG emission peak by 2030

Long-term goal: achieve zero net Scope I and Scope II GHG emissions by 2060

氣候風險管理

依據定期風險評估結果,亞美能源於業 務策略制定環節,將氣候風險管理納入 公司整體風險管理體系,對氣候風險進 行系統性科學管理。

亞美能源組織各部門完成2022年度危害 因素、環境因素識別與評價工作,並建 立《重大危害因素清單》。公司組織開展 風險辨識,其中使用工作危害分析(JSA) 識別低風險177項、一般風險66項、較 大風險12項、高風險1項;使用安全檢 查(SCL)識別低風險40項、一般風險46 項、較大風險5項;使用環境因素評價法 識別一般環境影響97項、重要環境影響 5項。

我們通過緩解與適應兩個層面開展氣候 行動,以充分應對氣候變化帶來的影 響。詳情請參閱本章「資源使用」章節。

指標和目標

亞美能源綜合國內外同行環境目標設定 情況,結合國家2030年實現碳達峰、 2060年實現碳中和整體目標,通過可再 生能源引入及綠證/碳抵銷等途徑,充 分評估自身減排潛力,設定了碳排放量 總量2060年將為零、碳排放強度每年遞 減2.5%的長期目標,並以此為基礎,亞 美能源分別制定2025年短期目標及2030 年中期目標。

短期目標:以2021年為基準年,到2025 年範疇一及範疇二溫室氣體排放強度(噸 二氧化碳當量/每百萬立方米天然氣)下 降10%

中期目標:於2030年實現範疇一及範疇 二溫室氣體排放總量達峰

長期目標:於2060年實現範疇一及範疇 二溫室氣體淨零排放

In 2022, the AAG Energy organization successfully completed the construction of 250 CBM wells, with 69 wells situated in the Panzhuang concession and the remaining 181 in the Mabi concession. The Mabi concession also saw a significant increase in well and fracturing construction, with 193 wells and 2,142 levels of fracturing construction completed, representing a 79% and 195% increase respectively, compared to the previous year. The Company also completed the construction and commissioning of the No. 2 gas gathering station, 35 kV single tower double circuit and transformer substation, which facilitated high voltage transmission in the southern area of the Mabi Block, enhancing the transmission capacity and providing effective guarantees for steady production growth in the region. However, with the increase in the Company's engineering volume, associated resources, energy consumption, carbon emissions and pollutant emissions also showed an upward trend. Additionally, CBM pumping wells have large water volumes in the early stages of production, leading to an increase in industrial wastewater. The Company intends to promote energy conservation and carbon reduction environmental goals through measures such as wastewater recycling, new energy substitution, and management optimization to mitigate the impact of increased production.

According to the Company's overall climate targets and work plan, AAG Energy links the management's performance appraisal on climate risk and opportunity management to the Company's sustainable development targets and defines the work and climate risk and opportunity management responsibilities for different departments. The ESG Working Group regularly reviews the completion of climate targets and uses the climate risks and opportunities identified to effectively improve the Company's adaptability to climate change. 2022年, 亞美能源共完成煤層氣鑽井 250口,其中潘莊區塊完成鑽井69口, 馬必區塊完成鑽井181口。2022年馬必 區塊共完成193口井、共計2.142級的壓 裂施工,相比2021年分別增長了79%、 195%。此外,公司還完成了馬必區塊2 號集氣站、35千伏電力單塔雙回路及變 電站等地面工程的建設並投入使用,會 現了馬必區塊南區高壓外輸,提高了外 輸能力,為南區穩步提產提供了有效保 障。隨著公司工程量的增加,相關資 源、能源消耗、碳排放及污染物排放量 等也呈現增長趨勢;同時,鑒於煤層氣 排採井的生產特點,前期新投產井水量 較多,由於新投產井的增加,工業廢水 量也呈現出增長趨勢。公司將根據實際 情況,通過採取廢水循環利用、新能源 替代和管理優化等措施,推動節能、降 碳環境目標達成。

依據公司整體氣候目標及工作規劃,亞 美能源確立與公司可持續發展目標相掛 鈎的氣候變化機遇/機遇管理層績效考 核機制,明確各相關部門的工作內容與 氣候風險/機遇管理職責,公司ESG工 作組定期審閲氣候相關目標的完成情 況,確保氣候風險和機遇的識別成果高 效助力於公司氣候變化適應能力的提升。

Chart: AAG Energy Greenhouse Gas ("GHG") Emissions from 2020 to 2022¹ 表:亞美能源 2020–2022 年溫室氣體排放數據¹

Greenhouse Gas 溫室氣體	Unit 單位	2020 2020年	2021 2021 年	2022 2022年
Scope 1 emission equivalent 範疇一排放當量	ton of carbon dioxide equivalent 噸二氧化碳當量	1,389.55	1,034.32	1,218.06
Scope 2 emission equivalent	ton of carbon dioxide equivalent	126,681.58	159,343.86	181,166.64
範疇二排放當量	噸二氧化碳當量			
Scope 1 emission density	ton of carbon dioxide equivalent/ million cubic meters	1.34	0.80	0.83
範疇一排放密度	噸二氧化碳當量/百萬立方米			
Scope 2 emission density	ton of carbon dioxide equivalent/ million cubic meters	122.52	122.76	123.52
範疇二排放密度	噸二氧化碳當量/百萬立方米			
GHG emission equivalent	ton of carbon dioxide equivalent	128,071.12	160,378.18	182,384.71
溫室氣體排放當量	噸二氧化碳當量			
GHG emission density	ton of carbon dioxide equivalent/ million cubic meters	123.86	123.56	124.35
溫室氣體排放密度	噸二氧化碳當量/百萬立方米			

Emission Management

AAG Energy is committed to complying with all relevant laws and regulations pertaining to environmental management and protection. The Company has implemented rigorous policies for managing the waste water, waste gas, and solid waste generated during daily construction and operation processes. AAG Energy actively implements the requirements of the environmental management system ISO 14001 and has mandated that all subsidiaries strictly adhere to this standard in their production and operation processes, while also taking into account their own unique characteristics.

排放物管理

亞美能源嚴格遵守與環境管理及保護相 關的相關法律法規,並遵照公司的內部 政策對日常施工與運營過程中產生的廢 水、廢氣和固體廢棄物進行嚴格的管 理。此外,公司積極推行環境管理體系 ISO 14001要求,嚴格要求各子公司根據 此標準和企業自身的生產經營特點開展 環境保護工作。

GHG emissions are presented in CO₂e. The fossil fuel emission factor is based on IPCC 2006, and the power emission factor is converted according to the Guidelines for Corporate GHG Emission Accounting Approaches and Reporting — Power Generation Facilities issued by the Ministry of Ecology and Environment.

温室氣體排放量按照二氧化碳當量呈現,其中化石燃料排放因子依據IPCC 2006,電力排放因子採用生態環境部《企業溫室氣體排放核算方法與報告 指南發電設施》進行換算。

Air Pollution Management

AAG Energy strictly adheres to national laws and regulations such as the Environmental Protection Law of the People's Republic of China, the Law of the People's Republic of China on Air Pollution Control, the Law of the People's Republic of China on Environmental Impact Assessment and the CBM (Coal Gas) Emission Standards (Interim), as well as local air emission standards and formulates Environmental Factor Identification, Evaluation and Control Procedures and other internal rules. We have compiled an annual list of important environmental factors to increase air pollution management. In 2022, we have identified and evaluated hazard factors and environmental factors and established the List of Major Hazard Factors and the List of Important Environmental Factors. In addition, we actively explore new approaches and technologies to identify and control various exhaust gases effectively in the production process.

大氣污染管理

亞美能源嚴格遵循《中華人民共和國環境 保護法》《中華人民共和國環境影響評價法》 《煤層氣(煤礦瓦斯)排放標準(暫行)》等 法律法規,以及地區大氣排放標準,制 定《環境因素識別、評價與控制程序》《環 境保護管理制度》等內部管理制度,編製 年度重要環境因素清單,提升大氣污染 管理水平。2022年,我們完成危害因 素、環境因素識別與評價工作,並建立 《重大危害因素清單》和《重要環境因素清 單》。此外,我們積極探索大氣污染治理 新技術,有效識別與控制生產過程中的 各項廢氣。

External laws and regulations 外部法律法規	Internal policies and systems 內部政策及制度
Environmental Protection Law of the People's Republic of China 《中華人民共和國環境保護法》	Procedure for Identification, Evaluation, and Control of Environmental Factors 《環境因素識別、評價與控制程序》
Law of the People's Republic of China on Environmental Impact Assessment 《中華人民共和國環境影響評價法》	Environmental Protection Management System 《環境保護管理制度》
Law of the People's Republic of China on the Prevention and Control of Air Pollution 《中華人民共和國水污染防治法》	List of Major Hazard Factors 《重大危害因素清單》
Law of the People's Republic of China on the Prevention and Control of Water Pollution 《中華人民共和國大氣污染防治法》	List of Important Environmental Factors 《重要環境因素清單》
Law of the People's Republic of China on the Prevention and Control of Soil Pollution 《中華人民共和國土壤污染防治法》	
Law of the People's Republic of China on the Prevention and Control of Environmental Pollution by Solid Waste 《中華人民共和國固體廢物污染環境防治法》	
Law of the People's Republic of China on the Prevention and Control of Environmental Noise Pollution 《中華人民共和國環境噪聲污染防治法》	
Emission Standard for CBM (Coal Mine Gas) (Provisional) 《煤層氣(煤礦瓦斯)排放標準(暫行)》	
and the regional atmospheric emission standards 以及地區大氣排放標準	

AAG Energy identified and determined the air pollutants emitted during the construction and operation periods and adopted the following special treatment measures. 亞美能源積極開展建設期與運營期排放 的大氣污染物的識別與判定工作,並分 別採取相應的專項治理舉措,如下表所 示:

	nerated during 主階段	Emission source 排放源	-	pe of pollutant 染物種類
項目建設期		Drilling diesel engines 鑽井柴油機 Construction dust 施工揚塵 Construction vehicles 施工車輛		D ₂ , NO ₂ , particulate matter D ₂ 、NO ₂ 、顆粒物 rticulate matter 粒物 D ₂ D ₂
Pro	ject operation	Engineering diesel vehicles, fuel generators, private cars.	SC	D ₂ , NO ₂ , particulate
項	目運營期	工程柴油車、燃油發電機、私家車	SC	D ₂ 、NO ₂ 、顆粒物
For various air pollutants, the following control measures were taken from the source and at the discharge stage:			我們針對各類大氣污染物,分別從源頭 及排放階段採取以下管控措施:	
≻	- Using dust protection measures during the construction period;		8	施工期使用揚塵防護措施;
➤ Using low-sulfur fuel for drilling diesel engines as much as possible; simultaneously, the Company endeavors to utilize the inter-well power grid or gas generator to provide electricity whenever feasible, in order to minimize the discharge of air pollutants;		٨	鑽井柴油機盡量燃用低硫燃料;同 時盡最大可能使用井間電網或燃氣 發電機提供動力,最大限度減少大 氣污染物的排放;	
 Using desulfurization equipment such as desulfurization towers, atomization desulfurization devices and hyper gravity machines in gas production to control hydrogen sulfide content; 		A	採氣過程中使用脱硫塔、霧化脱 硫、超重立機等脱硫設備,控制硫 化氫含量;	
X	Adopting advanced technologies and equipment for CBM gathering and transportation systems to ensure the tightness of equipment;		X	對煤層氣集輸系統採用先進的工藝 和設備,保障設備密閉性;
٨	Conducting regular line inspections to ensure that the CBM fugitive leakage is controlled within a reasonable range with the help of the pipeline pressure monitoring and control system;			進行定期巡檢,結合管道壓力監測 控制系統,保證煤層氣無組織洩露 控制在合理範圍內;

Chart: Identified Sources and Types of Air Pollutants 表:大氣污染物排放源及種類識別

Placing flare systems at each gas gathering station and the central gas station, igniting the CBM in the pipeline through flare systems for treatment when pigging operations or discharging due to accidents are required so as to reduce direct CBM emissions.

Case: Management of Hydrogen Sulfide Emissions at Well Sites

In 2022, AAG Energy engaged a qualified organization to conduct atmospheric environmental monitoring around the desulfurization towers of seven well sites containing hydrogen sulfide in the Panzhuang Project. The monitoring parameters included H_2S , SO_2 , NOx, non-methane total hydrocarbons, CO, and particulate matter, all of which met the comprehensive emission standards of atmospheric pollutants. The gas-fired boiler in the project management center and the range hood were also monitored for SO_2 , NOx, and particulate matter emissions, and the monitoring results were within acceptable limits.

Case: Management of Air Pollution Emissions in Mabi Project

In 2022, the Mabi Project updated the environmental factor identification and evaluation and safety check list (SCL) analysis records and job hazard analysis (JSA) forms for each department, following changes to the project content. This involved identifying and assessing hazards and environmental factors related to new and altered projects, establishing the List of Major Hazard Factors and the List of Important Environmental Factors, and identifying and addressing major and high-risk factors. The project also improved and implemented management and control measures to control risk in advance. The TEG (Triethylene glycol) dehydration unit at the No. 2 gas gathering station underwent waste gas monitoring throughout the year, with particulate matter, sulfur dioxide, and nitrogen oxide emissions complying with the emission concentration limits of air pollutants from gas-fired boilers listed in Table III of the Emission Standard of Air Pollutants for Boilers.

各集氣站和集輸總站設置放空火 炬,需要進行清管作業或事故狀態 排放時,將管道內煤層氣通過放空 火炬點火燃燒處理,減少煤層氣直 接排放。

案例:硫化氫井場排放管理

2022年,亞美能源委託具備資質的單位 組織對潘莊項目7個含有硫化氫井場的 脱硫塔周圍進行了大氣環境監測,監測 項目涉及H₂S、SO₂、NOx、非甲烷總 烴、CO、顆粒物,均達到大氣污染物綜 合排放標準;對項目管理中心燃氣鍋爐 排放的SO₂、NOx、顆粒物和油煙機產 生的油煙進行了監測,監測結果均達標。

案例:馬必項目大氣污染排放管理

2022年,馬必項目結合項目內容的變 化,完成項目各部門環境因素識別評價 與安全檢查(SCL)分析記錄表、工作危害 分析(JSA)表的更新工作,對新增、變更 項目進行危害因素、環境因素識別與單 價環境因素清單》,並且對辨識出的重大 和完善,做到風險管控前移。馬必項目 全年完成2號集氣站三甘醇脱水裝置 氣 監測,監測項目為顆粒物、二氧化 硫、氮氧化物,均滿足《鍋爐大氣污染物 排放標準》表三燃氣鍋爐大氣污染物排放 濃度限值。

Chart: AAG Energy Air Pollutants in 2022² 表:亞美能源 2020–2022 年大氣污染物數據表²

Air Pollutant 大氣污染物	Unit 單位	2020 2020年	2021 2021 年	2022 2022年
NO _x	ton 噸	0.15	0.42	0.45
SO ₂	ton 噸	0.0037	0.0046	0.0135
PM 顆粒物	ton 噸	0.01	0.04	0.04

Water Pollution Management

Wastewater discharge target: reduce the wastewater discharge density by 8% by 2025 from the baseline year of 2021 (including drilling wastewater and industrial wastewater).

AAG Energy strictly complies with the Law of the People's Republic of China on the Prevention and Control of Water Pollution and the Law of the People's Republic of China on Environmental Impact Assessment. The Company's wastewater mainly comes from the construction and operation periods, and the wastewater during the construction period mainly includes drilling wastewater, fracturing wastewater, construction wastewater, domestic sewage, etc; Industrial wastewater generated during the operation of the project mainly includes the produced water of CBM in the well site, industrial wastewater in the station and domestic sewage. In strict accordance with the Law of the People's Republic of China on Environmental Impact Assessment and other relevant national laws and regulations as well as local environmental protection regulations, AAG Energy implements professional treatment and comprehensive utilization of production wastewater and domestic sewage.

水污染管理

廢水排放目標:以2021年為基準年,到 2025年,廢水排放密度降低8%(含鑽井 廢水及工業廢水)。

亞美能源嚴格遵守《中華人民共和國水污 染防治法》《中華人民共和國環境影響評 價法》,公司的廢水排放主要來自施工期 與運營期,施工期間廢水主要為鑽井廢 水、壓裂廢水、施工廢水、生活污水等; 項目運營期間產生工業廢水,主要包括 井場煤層氣採出水、站場工業廢水及生 活污水。亞美能源嚴格按照《中華人民共 和國環境影響評價法》等國家相關法律法 規及地方環保規定,對生產廢水和生活 污水實施專業處理和綜合利用。

2 表格內因柴油使用排放的大氣污染物根據生態環境部《非道路移動源大氣污染物排放清單編製技術指南》中的計算方法進行統計:因汽油使用排放的 大氣污染物根據香港聯交所《環境關鍵績效指標匯報指引》中計算方法及排放系數進行統計。

² The air pollutants emitted from the use of diesel were counted with reference to the calculation methods in the *Technical Guidelines for the Compilation of Inventory for Air Pollutant Emissions from Non-road Mobile Sources* of the Ministry of Ecology and Environment; the air pollutants emitted from the use of gasoline were counted with reference to the calculation methods and emission coefficients in the *Reporting Guide for Environmental Critical Performance Indicators* of the Hong Kong Stock Exchange.

The Company has adopted a combination of measures to manage safety and environmental protection risks, such as low safety margin for pumping water, which is largely impacted by weather and many uncontrollable risk factors. This includes comprehensive utilization, installation of skid-mounted water treatment devices at the well site, and outsourcing treatment of pumping water. The Company has built and put into operation three sets of skid-mounted pumping water treatment facilities in the Panzhuang project and one set in the Mabi project. As a result, the comprehensive utilization rate of pumping water has reached over 86%, and disposal costs have been reduced.

In 2022, the Panzhuang Project further strengthened the management of pumping water. Given the large quantity and wide distribution of pumping water, the project repaired temporary storage tanks to ensure that the pumping water would not seep or leak in the new well sites and new pools. The project also upgraded and reconstructed existing substandard pools. The Panzhuang Project continued to strengthen the supervision of the pumping water hauling units and promote the implementation of whole-process monitoring, including installing GPS (Global Positioning System) and OBD (On Board Diagnostics) monitoring systems on all vehicles, establishing and improving the whole-process account of the generation, transfer, and disposal of pumping water, and ensuring compliance and legal disposal.

Case: Centralized Drainage Treatment in Panzhuang Project

In 2022, the Panzhuang Project built two skid-mounted sewage treatment plants in cooperation with a third party to conduct centralized treatment for some pumping water that is hard to be transported. The pumping water is discharged after the skid-mounted sewage treatment equipment is qualified and the water quality monitoring report is obtained. The skid-mounted drainage and extraction water purification treatment equipment has obtained relevant patents. As of 31 December 2022, about 10,937.2 cubic meters of pumping water have been treated, saving RMB195,000.

公司針對排採水道路運輸安全系數低、 受天氣影響大、拉運過程不可控風險因 素多等安全環保風險,採取綜合利用、 井場安裝撬裝式水處理裝置和拉運外委 處置相結合的處置方式處理排採廢水。 其中撬裝排採水處理設施潘莊項目已經 建投3套,馬必項目建投1套。最終實現 排採水綜合利用率達86%以上,同時節 約了處置費用。

2022年,潘莊項目進一步加強排採水管 理,針對排採水產量大、分布廣等特 點,組織對暫存水池進行修復,對新建 井場及新建水池確保排採水不滲不漏, 對已建的不達標水池進行升級改造。潘 莊項目持續對排採水拉運單位強化監 管,推進實現全部車輛安裝GPS和OBD 監控系統進行轉運全程監控,建立健全 排採水產生、轉移和處置全過程台賬, 保障合規合法處置。

案例:潘莊項目排水集中處理

2022年,潘莊項目通過與第三方合作新 建2座撬裝式污水處理裝置,對於部分 不便於採取拉運方式處置的排採水進行 集中處理,通過撬裝式污水處理設備將 排採水處理達標後,並取得水質監測合 格報告後進行外排。該撬裝式排採水淨 化處理設備已取得相關專利,截止到 2022年12月31日處理排採水10,937.2立 方米,節約費用19.5萬元。





Figure: Skid-Mounted Sewage Treatment Unit of Panzhuang Project 圖:潘莊項目撬裝式污水處理裝置

Case: Oily Sewage Treatment in the Panzhuang Project

The Panzhuang Project specifies the requirements for the collection of floating oil in oily wastewater and includes it in the list of hazardous wastes for management. The new valve group is built with an independent compressor blowdown collection tank, and the existing valve group blowdown tank is reconstructed to prevent or reduce the discharge of oily wastewater into the production wastewater tank of the well site. In 2022, the total amount of oily sewage treatment in the Panzhuang Project will be 0.05 tons, and the oily sewage from the valve group and the station will be regularly treated and transported to the designated sewage treatment plant.

In order to reduce the cost of pumping water treatment, the Mabi Project comprehensively considers the risk of environmental protection policies and mainly adopts the comprehensive utilization method, combined with the compliance treatment scheme of the sewage treatment plant As of 31 December 2022, the Mabi project has monitored pumping water in 75 well sites throughout the year. To continuously improve the comprehensive utilization of pumping water, the project constructed and operated six centralized pumping water collection tanks this year, and one tank is under construction. The skid-mounted water treatment unit was installed and commissioned in one well site, which was under trial operation.

案例:潘莊項目含油污水處理

潘莊項目規範含油廢水中的浮油收集要 求,將其納入危廢清單進行管理,新建 閥組修建獨立的壓縮機排污收集池,已 建閥組排污池進行改造,防止或減少含 油廢水排入井場生產廢水池內。2022 年,潘莊項目含油污水處理總量0.05噸, 定期對閥組及站場的含油污水處理後拉 運至指定的污水處理廠。

馬必項目為降低排採水處理費用,綜合 考慮環保政策風險,主要採用綜合利用 方式,結合污水處理廠合規處置方案進 行排採水處理。截止2022年12月31日, 馬必項目全年完成了75井場次的排採水 監測。為持續提升排採水的綜合利用 量,項目本年度完成修建排採水集中收 集池6座並投運,1座池正在修建中。井 場安裝撬裝式水處理裝置項目,已完成1 座井場設備安裝並已調試,進入試運行 階段。

Chart: AAG Energy Wastewater in 2020–2022 表:亞美能源 2020–2022 年廢水排放數據表

Water pollutants	Unit	2020	2021	2022
水污染物	單位	2020年	2021年	2022年
Total industrial wastewater discharge 工業廢水排放量	m ³ 立方米	231,491.00	331,141.50	621,412.31

Waste Management

The target of non-hazard waste discharge: reduce the density of drilling debris and desulfurization waste agent by 8% by 2025 from the baseline year of 2021.

The target of hazard waste discharge: improve the service life cycle of equipment and reduce the periodic discharge of hazardous waste caused by obsolescent equipment.

AAG Energy strictly abides by the *Law of the People's Republic* of *China on the Prevention* and *Control of Environmental Pollution by Solid Waste.* For the harmless wastes such as drilling mud, drilling cuttings, construction waste, waste desulfurizer and household garbage generated during the construction and operation of the project, as well as the harmful wastes such as waste oil and waste cotton cloth generated due to equipment maintenance, it follows the prevention and control principles of reduction, recycling and harmless, Take effective management measures for compliance treatment, minimize the generation and discharge of various wastes, and minimize the adverse impact on the environment.

廢棄物管理

無害廢棄物排放目標:以2021年為基準 年,到2025年,鑽井廢屑密度及脱硫廢 劑密度降低8%。

有害廢棄物排放目標:提升設備使用生 命周期,降低因設備淘汰而產生的周期 性有害廢棄物排放量。

亞美能源嚴格遵守《中華人民共和國固體 廢物污染環境防治法》《中華人民共和國 環境影響評價法》,對於項目施工期與運 營期產生的鑽井泥漿、鑽井巖屑、建築 垃圾、廢脱硫劑及生活垃圾等無害廢棄 物,以及由於設備維護產生的廢機油、 廢棉布等有害廢棄物,遵循減量化、資 源化、無害化的防治原則,採取有效管 理措施進行合規處理,最大限度降低各 類廢棄物的產生與排放,最大程度減少 對環境的不良影響。

The Company further standardized the management of general industrial solid waste. We conducted systematic and standardized management of the types, volume, flow, storage, and disposal of general industrial solid waste established relevant data files and registered with the environmental agencies at the county and prefecture levels.

In 2022, AAG Energy conducted an audit of environmental protection signboards and labels in the hazardous waste room and warehouse hazardous waste room of Station 1 at the Mabi Project. The aim was to enhance the management of signboards/ labels, as well as further standardized the management of hazardous waste. According to the 2022 hazardous waste management plan, the handling of hazardous waste transfer receipts and the supervision and management of hazardous waste transfer and disposal processes were promoted. The Mabi Project generated 10.15 tons of hazardous waste and 2.31 tons of waste lead-acid batteries in 2022, which were transferred four times, and four transfer sheets were issued. The transferred waste included 9.54 tons of waste mineral oil, 1.51 tons of waste engine oil barrels, and 2.31 tons of waste lead-acid batteries.

The Panzhuang Project implemented systematic and standardized management of general industrial solid waste in 2022, covering its type, production, flow direction, storage, and disposal. The relevant data files will be updated monthly. A relevant import and export management system was established for the construction and storage site of waste desulfurizer. The installation of hydrogen sulfide detection probes ensured safe and environmentally sound operations. 公司持續完善對一般工業固廢管理流 程。我們對一般工業固廢的種類、產生 量、流向、貯存、處置等實行系統化的 管理流程,建立相關資料檔案,並向縣 級地方環境保護行政主管部門申報登記。

2022年亞美能源對馬必項目1#站危廢 間、庫房危廢間環保標識牌/標簽進行 對標檢查,完善標識牌/標簽的管理, 進一步規範危廢管理工作。根據2022年 度危廢管理計劃,推進危廢轉移聯單的 辦理,和危廢轉移處置過程的監督管理 工作。馬必項目2022年度產生10.15噸 危險廢物,廢鉛酸電池2.31噸,累計轉 移4次,共計開具轉移聯單4張。其中, 轉移廢礦油9.54噸,廢機油桶1.51噸, 廢鉛酸電池2.31噸。

2022年,潘莊項目對一般工業固廢的種 類、產生量、流向、貯存、處置等進行 系統化規範管理,每月定期更新相關資 料檔案。針對廢脱硫劑建設貯存場所, 建立相關進出入管理制度,同時安裝相 關硫化氫檢測探頭,確保安全環保運行。

Chart: AAG Energy Non-hazardous Waste in 2020–2022 表:亞美能源 2020–2022 年無害廢棄物排放數據表

Non-hazardous Waste 無害廢棄物種類	Unit 單位	2020 2020年	2021 2021 年	2022 2022年
Drilling debris 鑽井廢屑	ton 噸	18,509.74	31,572.66	47,472.66
Drilling debris density 鑽井廢屑密度	ton/million cubic meters 噸/百萬立方米	17.90	24.32	32.37
Desulfurization waste agent 脱硫廢劑	ton 噸	2,272.40	2,518.10	2294.52
Desulfurization waste agent density 脱硫廢劑密度	ton/million cubic meters 噸/百萬立方米	2.20	1.94	1.56
Household waste⁵ 生活垃圾⁴	ton 噸	129.66	119.08	101.9
Household waste density 生活垃圾密度	ton/million cubic meters 噸/百萬立方米	0.13	0.09	0.07

Chart: AAG Energy Hazardous Waste in 2020–2022 表:亞美能源 2020–2022 年有害廢棄物⁶排放數據表

Emission indicators 排放指標	Unit 單位	2020 2020年	2021 2021年	2022 2022年
Total discharge of hazardous waste 有害廢棄物排放總量	ton 噸	44.80	28.72	71.87
Hazardous waste discharge density 有害廢棄物排放密度	ton/million cubic meters 噸/百萬立方米	0.043	0.020	0.049

- 生活垃圾含兩種估算方式。方式一:生活垃圾含廚餘垃圾、辦公垃圾兩類,廚餘垃圾由每日產生廚餘垃圾×總日數匯總估算,辦公垃圾中對外出售 部分以售賣重量為準,非對外售賣部分按每日產生量乘以總日數估算。方式二:生活垃圾產生量=員工數量×居民生活垃圾產生和排放系數×天數 (每季度平均工作天數取65.25),居民生活垃圾產生和排放系數根據《城鎮生活源產排污系數手冊》(2008)計算。
- ⁵ There are two ways to estimate the amount of household waste. Method 1: domestic waste comes from kitchen and office. The amount of kitchen waste is estimated by amount generated per day × days; the amount of sold part of the office waste is based on its weight, and non-sold part is estimated by daily output × days. Method 2: amount of household waste = number of employees × coefficient of household waste generated and discharged × days, among which the average working days per quarter is 65.25, and the coefficient is calculated based on the *Handbook of Urban Domestic Pollution Source Production and Emission Coefficient (2008)*.
- 有害廢棄物含項目建設與運營期間產生的廢機油、廢機油桶、廢棉布、農藥瓶及報廢分子篩等。Hazardous waste includes waste engine oil, waste engine oil drums, waste cotton cloth, pesticide bottles, and discarded molecular sieves generated during the construction and operation periods

Noise Management

AAG Energy strictly abides by the Law of the People's Republic of China on Prevention and Control of Environmental Noise Pollution and the Law of the People's Republic of China on Environmental Impact Assessment. Noise reduction measures will be taken for noise pollution generated during construction and operation, and control and protection management measures will be formulated for noise control and protection. In 2022, AAG Energy commissioned a qualified environmental monitoring unit to carry out daytime and nighttime environmental noise monitoring of six gas gathering stations. The monitoring results were in line with the Class 2 standard in the Environmental Quality Standard for Noise (GB 3096-2008).

噪聲管理

亞美能源嚴格遵守《中華人民共和國環境 噪聲污染防治法》《中華人民共和國環境 影響評價法》,對於施工與運營過程中產 生的噪聲污染,我們積極採取降噪措 施,對噪聲的控制與防護制定了相應的 控制與防護管理辦法。2022年,亞美能 源委託有資質的環境監測單位對場站噪 聲進行檢測,分析完成6個集氣站的晝 夜間環境噪聲監測,監測結果均符合《聲 環境質量標準》(GB 3096-2008)中的2類 區標準。

Management Measures for Noise Control and Protection of AAG Energy 亞美能源噪聲控制與防護管理辦法

- For new reconstruction and expansion projects, the noise control facilities should be designed, constructed and put into use at the same time as the main works.
 新改擴建項目,噪聲的控制設施應與主體工程同時設計、同時施工、同時投入使用。
- The operators shall operate in strict accordance with the equipment operating procedures. 操作人員嚴格按設備的操作規程進行操作。
- Strengthen the maintenance of equipment, and notify the maintenance personnel in time when the relevant noise protection facilities fail.
 加強設備的維護保養,當相關的噪音防護設施出現故障時,應及時通知維修人員處理。
- Adopt sound absorption materials and use various sound insulation and noise elimination equipment to reduce noise intensity.
 採用吸聲材料,利用各種隔聲、消聲設備,降低噪音強度。
- Make improvement plans where possible, update equipment in time and reduce the intensity of noise. 在可能的情況下作出改善計劃,及時更新設備,降低噪音的強度。
- Strengthen the management of construction contractors and exert influence to reduce the production of construction noise.
 加強對施工承包方的管理,並施加影響,以減少施工噪音的產生。
- The president's office strengthens the daily maintenance and annual inspection of vehicles.
 總裁辦公室加強汽車的日常保養和年檢。

- The competent department shall organize the noise monitoring of the production site and timely report the monitoring results to the relevant departments.
 主管部門組織對生產場所進行噪聲監測,並將監測結果及時報送至相關部門。
- When the monitoring results exceed the standard, the subordinate departments shall organize the formulation and implementation of mitigation control measures, and the Safety and Environmental Protection Department shall track and verify the implementation effect.
 監測結果超標時,由所屬部門組織制定消減控制措施並實施,安全環保部跟蹤驗證實施效果。
- Noise emission shall comply with relevant national environmental protection and occupational health standards.
 噪聲排放應符合國家相關環境保護和職業衛生標準。
- Effective control measures shall be taken for workplaces with noise exceeding the standard; Before reaching the standard, the Company shall distribute personal protective equipment to ensure the health of employees, and employees shall use hearing protection equipment as required.
 凡噪聲超過標準規定的作業場所,應採取行之有效的控制措施;在未達到標準前,公司應發放個人防護用品,以保障職工身體健康,職工應按要求使用聽力防護用品。
- Carry out pre-employment physical examination for employees to obtain basic hearing data. Conduct regular health examination for workers exposed to noise, and timely take effective protective measures in case of hearing damage; Those suffering from obvious organic diseases of hearing organs, cardiovascular and nervous system should be transferred from the posts with strong noise.

對員工進行就業前體檢,取得聽力的基礎資料。定期對接觸噪聲的工人進行健康檢查,發現聽力損傷應及時採取有效的防護措施;對患有明顯聽覺器官、心血管及神經系統器質性疾病者,應調離強噪聲的工作崗位。

• Reasonably arrange the staff to have a rest at work and temporarily leave the high-noise places as far as possible.

合理安排員工工間休息,並盡可能暫離高噪聲場所。

Resource Use

AAG Energy strictly complies with the Law of the People's Republic of China on Energy Conservation and other laws and regulations. AAG Energy advocates the fine management of water resources and energy, improves efficiency to utilise resource and minimizes the impact of production and operation on the environment.

Water Resources Management

Water consumption target: reduce the water consumption density by 8% by 2025 from the baseline year of 2021.

AAG Energy strictly abides by the Water Law of the People's Republic of China, and constantly strengthens the water-saving management of the whole process of water source, water intake and water use of production units. In its daily work, Panzhuang Project actively takes measures such as multi-use of one water, recycling water and process adjustment to continuously reduce the unit consumption of water and comprehensively improve the utilization efficiency of water resources. In 2022, the well workover operation of the Panzhuang Project used 2,130 cubic meters of pumping water from the well sites, and the operation related to the replacement of reagent in the desulfurization tower used 609 cubic meters of pumping water from the well sites, saving a total of RMB155,000 in water extraction and treatment costs.

Also, AAG Energy actively promote the comprehensive utilization of pumping and production water, the treatment and reuse of drilling mud waste liquid, and the use of skid-mounted sewage treatment devices, and further promote the optimal disposal of solid waste and wastewater and the cost reduction of the Company.

Case: Optimization and Utilization of Pumping Water in Mabi Project

In 2022, to reduce the production and operation costs, the Mabi Project actively optimized the utilization of the pumping water through inter-well transfer, fracturing, operation site utilization, engineering dust suppression, and installation of wellhead skidmounted sewage treatment equipment. As of 31 December 2022, the total amount of pumping water generated by the Mabi project is about 543,570 cubic meters, 489,883 cubic meters of which were treated, and 406,676 cubic meters were utilized with a utilization rate of 83%, saving about RMB15.53 million.

資源使用

亞美能源嚴格遵守《中華人民共和國節約 能源法》等法律法規,公司大力推動水資 源與能源精細化管理,提高資源利用效 率,最大化降低生產運營對環境所造成 的影響。

水資源管理

用水目標:以2021年為基準年,到2025年,耗水密度降低8%。

亞美能源嚴格遵守《中華人民共和國水 法》,不斷強化生產單位水源、取水、用 水的全過程節水管理。潘莊項目在日常 的工作中,積極採取一水多用、循環用 水和調整工藝等措施,不斷降低用水單 耗,全面提升水資源利用效率。2022年 度,亞美能源潘莊項目修井作業施工利 用井場排採水2,130立方米,脱硫塔更換 藥劑相關作業利用井場排採水609立方 米,共計節約拉水及處理水費用15.5萬 元。

同時,積極推動排採水綜合利用、鑽井 泥漿廢液處置再利用、撬裝污水處理裝 置使用,,進一步推進公司固廢、廢水的 優化處置和費用降低。

案例:馬必項目排採水優化利用

2022年,馬必項目為了降低生產運行成本,通過井間轉運、壓裂、作業現場利用、工程抑塵、安裝井口撬裝污水處理設備等方式,積極努力地對排採生產水進行優化利用。截止2022年12月31日,馬必項目共計產生排採水約為543,570立方米,處理量約為489,883立方米,綜合利用量約為406,676立方米,綜合利用率為83%,節省約1,553萬元。

Chart: Water Consumption of AAG Energy in 2020–2022 表:亞美能源 2020–2022 年水資源使用情況

Indicator 指標	Unit 單位	2020 2020年	2021 2021 年	2022 2022年
Total water consumption 總耗水量	ton 噸	153,711.60	132,090.28	183,292.20
Water consumption density 耗水密度	ton/million cubic meters 噸/百萬立方米	148.65	101.76	124.97

Energy Management

AAG Energy strictly abides by the Energy Conservation Law of the People's Republic of China and other laws and regulations, implements energy conservation and emission reduction policies, and actively explores energy conservation and emission reduction technologies to improve energy efficiency. We proactively eliminate backward equipment and processes with high energy consumption and high emission, and actively introduce and promote new energy-saving and environmentally-friendly equipment, new technologies, new processes and new materials for better energy efficiency. We scientifically manage the use of electricity, natural gas, gasoline and other resources, and have established special statistical ledgers to record the usage. The Company closely monitors and regularly reviews the energy consumption among all links to fully motivate relevant departments to conserve energy and reduce consumption. Meanwhile, we champion the concept of green offices, continuously enhance employees' awareness of resource conservation and encourage employees to save energy by reducing travel and vehicle use to fully implement the concept of emission reduction and promote the green development of the Company.

能源管理

亞美能源嚴格遵守《中華人民共和國節約 能源法》等法律法規,積極貫徹節能減排 政策,持續探索節能減排技術,提高能 源使用效率。我們主動淘汰高耗能、高 排放的落後設備與工藝,積極引進並推 廣應用節能環保新設備、新技術、新工 藝、新材料,提升能源使用效率。我們 堅持對電力、天然氣、汽油等各項資源 的使用情況進行科學化管理,建立專項 統計台賬進行記錄。公司嚴密監控並定 期審閱各環節用能情況,充分調動相關 部門開展節能降耗工作的積極性。同 時,我們積極倡導綠色辦公理念,持續 培養員工節約資源的意識,減少差旅與 車輛使用次數,全面貫徹落實減排理 念,促進公司綠色發展。

Chart: Energy Consumption of AAG Energy in 2020–2022 表:亞美能源 2021–2022 年能源使用情況

Use of Energy 能源使用種類	Unit 單位	2021 2021年	2022 2022年
Purchased Electricity 外購電力	MWh 兆 <i>瓦</i> 時	164,611.42	187,155.62
Purchased Gas 外購天然氣	cubic meters 立方米	16,722.00	17,558.00
Purchased Gasoline 外購汽油	liter 升	269,567.38	340,925.93
Purchased Diesel 外購柴油	liter 升	44,615.17	10,673.50
Self-Produced CBM 自產煤層氣	cubic meters 立方米	135,862.00	189,468.27
Comprehensive Energy Consumption 綜合能耗 ⁷	ton 噸	20,757.87	23,629.49
Comprehensive Energy Consumption/ per Million Cubic Meter CBM Produced	ton/million cubic meters	15.99	16.11
綜合能耗/生產百萬立方米煤層氣	噸/百萬立方米		

As Panzhuang Project expands year by year and investment in single well and booster equipment continues, power consumption has also increased year by year. In 2022, Panzhuang Project saved electricity costs by reducing the unit price of electricity and electricity consumption under the premise of ensuring normal production. 隨著潘莊項目的逐年發展,單井和增壓 設備的不斷投入,對應的電力消耗也逐 年增加,2022年,潘莊項目在保障正常 生產的前提下通過降低用電單價和用電 量等措施進行電費節約。

⁷ The energy consumption is calculated in accordance with the conversion coefficient of energy into standard coal in the General Rules for Calculation of Comprehensive Energy Consumption GBT2589-2008.

⁷ 能源消耗量根據《綜合能耗計算通則GBT2589-2008》各種能源折標準煤系數計算得出。
Case: Panzhuang Project Reduced Power Consumption by Compressors

As the Panzhuang Project developed year by year, with continuous investment in single well and booster equipment, the corresponding power consumption also increased year by year. In 2022, the Panzhuang Project saved electricity costs by reducing the unit price of electricity and electricity consumption under the premise of ensuring normal production. According to the Pressure Management System, the project pays attention to the pressure difference of the main pipeline in each area, carries out pigging of the pipeline in time, and reduces the pipeline pressure, thereby reducing the current of the compressor motor and reducing electricity consumption. In 2022, while ensuring stable gas production, the Panzhuang Project optimized and adjusted the operation quantity of the 6-2 valve group compressors from two compressors to one compressor, which not only increased the equipment fault tolerance rate but also saved monthly power consumption. By the end of December 2022, the cumulative power consumption saved was 1,480 MWh. In addition, the project timely adjusted the number of auxiliary cooling fans of the compressor/booster pump to be put into operation according to seasonal changes, and cut off some cooling fans to reduce power consumption under the condition of meeting the normal use conditions of on-site equipment. This technology saved 560-megawatt hours of electricity in the year 2022.

In order to create an energy-saving and intelligent CBM mining enterprise, the Mabi project carry out energy conservation, establish a long-term working mechanism, and formulate a feasible and practical implementation plan.

案例:潘莊項目降低壓縮機用電量

隨著潘莊項目的逐年發展,單井和增壓 設備的不斷投入,對應的電力消耗也逐 年增加,2022年,潘莊項目在保障正常 生產的前提下通過降低用電單價和用電 量等措施進行電費節約。項目根據《壓力 管理制度》,關注各區主管道壓差,及時 進行管道通球排液,降低管道壓力,從 而降低壓縮機電機電流,減少用電量消 耗。2022年潘莊項目在保證生產氣量穩 定的前提下, 優化調整6-2閥組壓縮機 運行數量,由兩台壓縮機運行調整為一 台壓縮機運行,既增加了設備容錯率, 又節省了月度電量消耗,截至2022年12 月底累計節約用電量1,480兆瓦時。此 外,項目根據季節變化及時調整壓縮 機/增壓泵附屬冷卻風機投運數量,在 滿足現場設備正常使用條件下,對部分 冷卻風機進行切除,減少用電量,此項 技術在2022年度累計節約電量560兆瓦 時。

馬必項目為創建節能、智能型煤層氣開 採企業,開展節能工作,建立起長效工 作機制,制定切實可行的實施方案。

Mabi project energy saving implementation plan 馬必項目節能實施方案		
Well field 井場	 Use the electricity during low tariff periods for pumping and drainage of the well field, reducing electricity expenses; 間抽井採用在用電谷段進行排採,降低電費支出; Stop using lighting equipment during nighttime in well fields that have passed the critical pumping and drainage period, reducing power consumption; 已過關鍵排採周期的井場,停止夜間照明設備的使用,降低電力能耗; Use heating facilities in well fields according to weather conditions to reduce power consumption. 井場的伴熱等設施,結合天氣情況進行使用,降低電力能耗。 	
Well Station 站場	 Adjust the number of compressor cooling fans according to the actual situation on site during autumn and winter seasons, cut off some cooling fans to reduce power consumption while meeting the normal equipment operation conditions; 站場壓縮機秋冬季節根據現場實際情況及時調整壓縮機附屬冷卻風機投運數量, 在滿足現場設備正常使用條件下,對部分冷卻風機進行切除,減少用電量: Use equipment heating in combination with equipment and environmental temperatures to reduce power consumption; 設備伴熱應結合設備和環境溫度進行投退,降低電力消耗; Reasonably use air conditioning and heating equipment in summer and winter; 夏季、冬季合理使用空調和取暖設備; Use energy-saving lighting in the station, and personnel should use natural light as much as possible according to weather conditions during the day, turn off lights when not in use, and avoid waste; 站場採用節能照明,人員白天應根據天氣情況盡可能採用自然光照明,做到隨手 關燈,杜絕浪費; Turn on and off computers and other devices as needed to reduce standby power consumption. 	

電腦等設備隨開隨關,減少待機消耗。

Power supply system 供電系統	 Use the existing high-voltage reactive power compensation device and adjust the high-voltage reactive device reasonably according to the actual operation of the equipment to improve the power factor of the power supply network; 利用現有的高壓無功補償裝置,結合現場設備的實際運行情況,合理調整高壓無功設備,提高供電網絡的功率因數; Use a 35kV substation to increase the 10kV power supply voltage and reduce line losses. 利用 35kV 變電站提高 10kV 供電電壓,降低線路損耗。
Process 工藝	 Regularly drain the main pipelines to reduce pipeline back pressure, reduce compressor power, and thus reduce energy consumption; 通過定期對主管線排液,降低管線背壓,減少壓縮機的功率,從而降低能耗; Reduce pipeline pressure and equipment energy consumption by using measures such as drainage valves and gas-liquid reverse drainage for single well pipelines. 單井管線通過排液閥井、氣液反排等措施降低管線壓力,降低井口增壓設備排氣 背壓,降低設備能耗。
Equipment 設備	 Use linked hydraulic pumping units for interval pumping to reduce installation and maintenance costs and equipment energy consumption; 間開井採用聯動式液壓抽油機,降低安裝、維護成本和降低設備能耗; Purchase motors and other equipment according to the latest <i>Limits and Energy Efficiency Grades for Motors (GB 18613-2020)</i>; 採購的電機等應按照最新的《電動機能效限定值及能效等級》(GB 18613-2020)執行; Use a frequency converter to control the start of newly purchased equipment, reducing the power consumption during start-up; 新購設備的啟動方式採用變頻器控制,可以降低在啟動時的耗電量; Use synchronous motors to reduce power consumption for equipment of the same power. 試用同步電機,同等功率下降低電力消耗。

Construction of Ecologically-Friendly Well Site

AAG Energy is committed to the "green mountains and clear waters are as valuable as gold and silver" concept and strives to plan ahead for the development of the "ecologically friendly well site" implementation plan. This includes assigning tasks and responsibilities to individuals, unifying construction standards, constructing and restoring anti-seepage ponds, building fences, laying stones, constructing flood control ditches, planting trees and grass on well sites and engineering roads, and installing environmental monitoring facilities. All of these measures contribute to the protection of the environment.

Case: Environmental Treatment Plan for Ecologically Friendly Well Sites

- In line with the principle of adapting measures to local conditions and coordinating with the landscape, the ecological environment of the well site shall be restored and reconstructed based on the original land use and vegetation distribution. The principle of "trees where suitable, grass where suitable, and cultivation where suitable" shall be adopted. If the original state cannot be restored, compensation shall be made elsewhere in accordance with relevant regulations.
- To ensure environmental protection, anti-seepage measures must be taken for the mud pit during well site construction. Once the construction is complete, the mud pit must be promptly treated using pollution-free solidification methods. A qualified organization should inspect the treated mud and issue a report after the curing process. Backfilling is carried out after the inspection passes, and ecological restoration is implemented. The solidification qualification rate must reach 100% to ensure complete curing.
- The production well site is enclosed by a fence, ensuring that it is level, clean, and free from weeds. Standardized stones are laid around the perimeter of the well site fence. Environmental protection facilities at the well site are regularly maintained. The well site is clearly marked with signage displaying the Company name and other relevant information. The public areas of the well site are kept clean and free of any pollutants or waste materials.

生態井場建設

亞美能源踐行「綠水青山就是金山銀山」 理念,秉承規劃先行,制定「生態井場」 建設實施方案並下達任務安排責任到 人,統一建設標準,修建修復防滲池、 建設圍網、鋪設石子、砌築防洪溝渠、 對井場和工程道路植樹種草,並安裝環 保監視設施,為綠水青山添磚加瓦。

案例:生態井場環境治理方案

- 按照因地制宜、景觀協調的原則, 依據原有的土地利用及植被分布情況,採取「宜樹則樹、宜草則草、 宜耕則耕」的原則,對井場生態環 境進行恢復、重建;對不能恢復原 狀的,按相關規定進行異地補償。
- 在建井場泥漿池採取防滲處理等環 保措施,井場建設完成後及時對泥 漿池進行無公害固化處理。固化處 理後,委託有資質的機構對處理後 的泥漿進行檢驗,並出具合格檢驗 報告,檢驗合格後進行回填,實施 生態恢復,固化合格率達100%。
- 生產井場四周修建設圍網,圍網內 井場平整、清潔、無雜草;標準化 井場圍網內石子鋪設;井場環保設 施及時維護;井場統一標牌標識, 標注公司名稱等相關信息;井場公 共場所保持整潔、場內無污染物和 廢棄物。

- A wall should be constructed around the gas gathering station and water-retaining walls should be installed as necessary to prevent rainwater from entering the station area. The station should be divided into functional areas, including production, management, and living areas.
- To minimize the impact of road construction on the environment, existing roads should be utilized as much as possible when planning the route for well site roads. Before excavating the gas flow pipeline trench, the topsoil in the excavation area must be removed and placed on one side of the trench for later use. After construction is completed, the stripped topsoil should be recycled. In accordance with the principle of landscape ecological suitability, appropriate measures should be taken to cover the soil and plant vegetation.
- Within 15 meters around the well site, if greening is allowed, take greening measures such as planting trees and grass; All surface equipment shall be removed within six months after the expiration of the well site service, and the well sealing operation and ecological restoration shall be carried out. In the process of equipment removal, the ecological environment shall be strictly prevented.

- 集氣站四周修建圍牆,根據實際需 求設置擋水牆,防止集氣站或場站 外雨水進入集氣站或場站區域;場 站按生產區、管理區、生活區等功 能類別分區。
- 道路選線盡量利用現有道路,減少施工井場道路臨時用地。採氣管線 管溝開挖前,對開挖範圍內佔地進 行表土剝離,集中堆放於管溝一 側,施工結束後,將剝離的表土回 覆利用。根據景觀生態適宜性原 則,採取相應措施進行覆土綠化種 植植物。
- 井場周邊15米範圍內,在允許線 化的情況下,採取植樹、種草等線 化措施;井場服務期滿後六個月內 拆除所有地面設備,進行封井作業 和生態恢復。設備拆除過程中,嚴 防破壞生態環境。

In 2022, the Panzhuang Project exceeded the requirements of Company's Technical Requirements for Standardized Construction of the Well Site by completing 12 out of 10 planned ecological well site construction tasks. In the Mabi Project, the construction of 15 ecological well sites was planned and all 15 were completed as planned. The ecological restoration of 34,295 square meters of aggregate spray seeding greening has been completed for the 2# gas gathering station, which included the planting of 12,000 deciduous trees, evergreen shrubs, flowering shrubs and other plants. 2022年,根據公司制定的《「生態井場」 建設實施方案》要求,潘莊項目按計劃年 度內需完成10座生態井場建設任務,實 際完成12座;馬必項目按計劃需完成15 座生態井場建設任務,實際完成15座。 2#集氣站完成34,295平方米的團粒噴播 綠化生態修復,種植各類落葉喬木、常 綠灌木、花灌木類等植物12,000棵。



Figure: Ecological Well Site of Panzhuang Project 圖:潘莊項目生態井場



Figure: Ecological Well Site of Mabi Project 圖:馬必項目生態井場

Barren Mountain Greening Project

"Many trees make a forest" is an old saying that highlights the importance of planting trees for a greener future. At AAG Energy, we believe that every tree planted is a step towards creating a more beautiful and sustainable environment. In line with this belief, we actively responded to the *Opinions of the People's Government of Jiafeng Town on the Arrangement of Forestry Ecological Construction in 2022* and participated in local barren mountain greening projects. Through our practical actions, we are putting the scientific concept of "clear water and green mountains are as precious as mountains of gold and silver" into practice.

In 2022, the AAG Energy Waste Mountain Greening Project successfully planted 8,595 trees including 4,300 platycladus orientalis and 4,295 forsythia suspensa, over an area of 30 mu in Lianao Mountain and Taogenao Mountain in Wohu Village, Jiafeng Town. The seedlings used were platycladus orientalis with a seedling height of over 2 meters and forsythia with a ground diameter of over 0.6 cm. The planting was carried out with a spacing of 2*2 meters, achieving a planting density of over 166 platycladus orientalis per mu and over 166 forsythia per mu. The project passed the acceptance by Jiafeng Town People's Government, and the barren mountain greening initiative has effectively improved the overall forest resources and ecological quality of the entire town. AAG Energy successfully completed the greening task on schedule and fully integrated scientific concepts with its own enterprise development, contributing to the ecological environment protection efforts.

荒山綠化工程

兩木為林,三木成森,亞美能源種下的 每一棵樹,終將長成沿途的風景。公司 積極響應《嘉峰鎮人民政府2022年林業 生態建設安排意見》文件精神,參與了地 方荒山綠化工程建設,用實際行動踐行 「綠水青山就是金山銀山」的科學理念。

2022年,亞美能源荒山綠化工程在嘉峰 鎮臥虎莊連凹山和桃圪腦栽種面積30 畝,採用苗高2米以上的側柏苗木和地 徑0.6厘米以上的連翹苗木,共計栽樹 8,595棵,其中側柏4,300棵,連翹4,295 棵。栽植株行距2*2米,造林密度每畝側 柏166株以上、中間套種連翹每畝166株 以上,栽植合格,順利通過嘉峰鎮人民 政府驗收。荒山綠化工程提升了全鎮森 林資源總量和森林生態質量,亞美能源 如期完成綠化任務,將科學理念和自身 企業的發展充分融合,為生態環境保護 工作添光增彩。









Figure: Acceptance of AAG Energy Barren Mountain Greening Project 圖:亞美能源荒山綠化項目驗收現場

AAG Energy has always adhered to the principle of quality as the basis, customer-centric, innovation-driven, integrity and compliance, and cooperated with industry partners to provide clean energy to society continuously and stably. By strengthening the quality management system, improving the service quality, promoting scientific research and development, and formulating and implementing the business ethics system and requirements, we can fully realize sustainable development on the basis of ensuring the stable operation of enterprises.

3.1 Consistently Stable Supply of High-Quality Gas

As a leading energy company in China's CBM exploration and development industry, AAG Energy focuses on the development and value optimization of unconventional natural gas resources. The Company adheres to the mission of "creating the highest value for the society", constantly improves the product quality management system, improves service efficiency, strengthens innovation management, and is committed to providing clean energy for China's green development.

Quality Assurance

AAG Energy strictly complies with the relevant laws, regulations and industry standards applicable to quality and safety in the place of operation, such as the *Product Quality Law of the People's Republic of China*, the *Standardization Law of the People's Republic of China*, the *Regulations of the People's Republic of China on the Administration of Industrial Product Production License*, and establishes and continuously optimizes the quality management procedures. By setting quality management objectives, update and improve various quality management documents and ensure their effective implementation in all links.

In order to continuously improve the legality and compliance of the Company's work in the process of CBM exploration, development, production and operation, in 2022, we focused on completing the construction of the quality management system, and deeply integrated it with the health, safety and environmental protection management system, and upgraded it to the QHSE management manual, the QHSE procedure document and the QHSE operation document. With the operation of the Company's quality management system, the engineering quality and product quality control level of the Company's CBM exploration and development process has been improved. 亞美能源始終堅持以質量為基礎,以客戶為中 心,以創新為驅動,以誠信合規為原則,協同 行業伙伴,持續穩定地為社會提供清潔能源。 我們通過強化質量管理體系,提升服務品質, 推動科技研發,制定並落實商業道德制度與要 求等方式,在保障企業穩健運營的基礎上全面 實現可持續發展。

3.1 持續高質穩定供氣

作為中國煤層氣勘探開發行業領先的能 源公司,亞美能源專注於非常規天然氣 資源的開發及價值優化。公司秉承「為 社會創造最高價值」的使命,不斷完善 產品質量管理體系,提升服務效能,加 強創新管理,致力為中國綠色發展提供 清潔能源。

質量保證

亞美能源嚴格遵循《中華人民共和國產品 質量法》《中華人民共和國標準化法》《中 華人民共和國工業產品生產許可證管理 條例》等運營地適用的質量安全相關法律 法規與行業標準,搭建並不斷優化質量 管理程序。通過設立質量管理目標,更 新完善各項質量管理文件,並確保其在 各個環節有效實施。

為不斷完善公司在煤層氣勘探、開發與 生產運營過程各項工作的合法合規性, 2022年我們重點完成了質量管理體系建 設,並將其與健康安全環保管理體系深 度融合,升級為QHSE管理手冊、QHSE 程序文件以及QHSE作業文件。隨著公 司質量管理體系的運行,提升了公司煤 層氣勘探開發過程的工程質量和產品質 量管控水平。



Figure: Quality Management Procedure 圖:質量管理程序

The Company has established and improved the quality supervision and monitoring system, strengthened the management of the CBM quality plan, documents and quality records, continuously improved the quality inspection standards and means, defined the monitoring frequency, and well performed the process quality control, and is committed to ensuring that the quality of exported gas reaches the national level of Class II natural gas quality standard. In 2022, an annual gas quality test was conducted according to the Company's internal *Coalbed Gas Quality Management System*, and the test results met the national standards. 公司建立健全質量監督監測體系,加強 煤層氣質量計劃管理、文件資料和質量 記錄質量管理,不斷完善質量檢測標準 及手段,明確監測頻次,做好過程質量 控制,致力保障外銷氣體質量達到國家 二類天然氣質量標準水平。2022年,依 據公司內部《煤層氣氣質管理制度》進行 了每年一次的氣質檢測,檢測結果均滿 足國家標準。

In 2022, the cumulative gas production of the Panzhuang Project is about 1.182 billion cubic meters, and that of the Mabi Project is about 284 million cubic meters. We provided about 63.03 million cubic meters of affordable gas for domestic use to Jincheng throughout the year, about 2.93 million cubic meters of free gas supply to the residents nearby, about 219 million cubic meters of high-quality but affordable industrial gas to the local area of Jincheng. In the heating season, AAG Energy achieves about 118 million cubic meters gas supply of Shanxi Province, providing about 402 million cubic meters of high-quality and affordable gas for the local area.

Customer Service

AAG Energy adheres to customer-centered and constantly improves its service management system. We strictly abide by the Law of the People's Republic of China on the Protection of the Rights and Interests of Consumers and other relevant laws and regulations, formulate internal rules and regulations such as the Market Operation Management Measures, constantly optimize the communication mechanism with customers, ensure that we maintain normal and close contact with customers, actively carry out investigations and promote rectification in response to customer complaints and feedback. We regularly carry out the customer satisfaction survey and opinion collection through questionnaires and after-sales customer services to comprehensively evaluate the Company's performance in product services. In 2022, the Company conducted a satisfaction survey on 100% of customers, and the customer satisfaction rate was 99%. There was no complaint about products and services.

Innovation-Driven Development

AAG Energy always respects and attaches importance to the protection of intellectual property rights, and strictly complies with the relevant laws and regulations of the place of operation, such as the Patent Law of the People's Republic of China, the Copyright Law of the People's Republic of China, and the Trademark Law of the People's Republic of China. We establish and continuously improve the intellectual property management system, formulate the Intellectual Property Management Measures, and add the Implementation Rules of the Intellectual Property Management Measures to standardize the Company's internal management mechanism and provide a guarantee mechanism for the Company's scientific and technological innovation, patent rights, trademark rights and trade secrets. 2022年,潘莊項目累計產氣量約11.82億 立方米,馬必項目累計產氣量約2.84億 立方米。累計為晉城當地貢獻廉價民用 氣約6,303萬立方米,為公司周邊居民免 費供氣約293萬立方米,為晉城當地提 供優質廉價工業氣約2.19億立方米,採 暖季保供山西全省氣量約1.18億立方米, 共計為當地提供優質廉價氣量約4.02億 立方米。

客戶服務

亞美能源堅持以客戶為中心,不斷完善服務管理體系。我們嚴格遵守《中華人民 共和國消費者權益保護法》等相關法律法 規,制訂《市場經營管理辦法》等內部規 章制度,不斷優化與客戶間的溝通機 制,確保與客戶保持常態化、緊密化 聯繫,針對客戶投訴及反饋意見積極開 展調查並推進整改。我們通過定期發放 問卷、售後回訪的渠道傾聽客戶心聲, 調查客戶滿意度,以此作為公司產品服 務表現的綜合評估。2022年,公司客戶 滿意度調查覆蓋率達100%,客戶滿意度 達99%,未發生產品及服務相關投訴事 件。

創新引領

亞美能源始終尊重並重視知識產權的保 護,嚴格遵守《中華人民共和國專利法》 《中華人民共和國著作權法》《中華人民共 和國商標法》等運營地相關法律法規。搭 建並不斷完善知識產權管理體系,制定 《知識產權管理辦法》,新增《知識產權管 理辦法實施細則》以此規範公司內部管理 機制,為公司科技創新、專利權、商標 權和商業秘密提供保障機制。

Scientific and technological innovation is the source of power for enterprise development. In 2022, we carried out a number of technological innovation research and experiments to help industry innovation and promote industry development.

Case: Volume Fracturing Innovation Test

At the beginning of 2022, AAG Energy learned that the middle and deep coal seams in the South Yanchuan concession had achieved high yield due to volume fracturing, and immediately carried out relevant technical research. After sorting out the reliable technical data and determining the technical scheme, the Geological Reservoir Department, the Mabi Project, the Drilling and Completion Department and the Production and Operation Department jointly prepared the application materials for the volume fracturing innovation experiment in Mabi concession.

After the technical proposal and application materials are approved, the volume fracturing test of two horizontal wells will be carried out immediately in the South Mabi concession, and the volume fracturing test of two directional wells and two horizontal wells will be carried out in the North area. At present, six wells are in the process of drainage and depressurization, and the daily output of one-directional well has reached 1,400 cubic meters.

Case: Integrated Seismo-Geological Research

3D seismic technology has developed from the early exploration technology to the guarantee technology of the whole life cycle of the oil field from "exploration, development and production" today. AAG Energy has applied this technology in nearly 200 square kilometers of the Mabi project. In order to fully exploit the role of this technology in the development of CBM, the Ministry of Geology and Reservoir launched three research projects in early 2022.

- 1. Research on integrated seismic and geological prediction technology of CBM enrichment area;
- Research on the distribution characteristics of CBM well fracturing fractures based on full 3D seismic data;
- 3. Research and application of seismic and geological integrated prediction technology of structural coal distribution based on ternary catastrophe coupling control.

科技創新是企業發展動力之源。2022 年,我們開展了多項技術創新研究與試 驗,助力行業創新,推動行業發展。

案例:體積壓裂創新試驗

2022年初,亞美能源獲知延川南區塊中 深部煤層因體積壓裂而獲高產,便立即 開展相關技術調研工作。通過對可靠技 術資料的梳理,技術方案的確定後,地 質油藏部與馬必項目、鑽完井部、生產 運行部聯合編製了馬必區塊體積壓裂創 新實驗申報材料。

技術方案與申報材料獲批後,立即在馬 必南區實施兩口水平井體積實驗,在北 區實施兩口定向井、兩口水平井體積壓 裂試驗。目前六口井均在排水降壓中, 其中一口定向井日產量已達到1,400立方 米。

案例:地震一地質一體化研究

三維地震技術從早期的勘探技術,發展 到今天從「勘探 — 開發 — 生產」的油田 全生命周期的保障技術。亞美能源在馬 必項目近200平方千米的區塊內已應用 此技術,為充分挖掘該技術在煤層氣開 發的作用,地質油藏部於2022年初啟動 了三項課題研究。

- 、煤層氣富集區地震地質一體化預測 技術研究;
- 二、基於全三維地震資料的煤層氣井壓 裂裂縫展布特徵研究;
- 三、基於三元突變耦合控制的構造煤分 布地震一地質一體化預測技術研 究與應用。

These studies and experiments have played an important role in the optimization of development plans and productivity prediction, making the development of CBM more deterministic.

As for patent management, the risk control and compliance department of the Company enhances employees' awareness of patent protection by carrying out patent knowledge training, organizing and holding innovation activities, and stimulating technological innovation ability. In order to avoid infringement, the Company invited professional institutions to conduct risk monitoring in the early stage of patent project development; In the process of project planning, design and development, timely obtain legal protection through the Risk Control and Compliance Department; If any infringement is found, the Company will promptly investigate and collect evidence, and will ask the patent administration authority to handle or initiate a lawsuit if necessary.

In terms of trademark management, according to the trademark management process system, the Company carries out trademark application, registration, renewal, transfer, evaluation, use license review and handling. In view of the occurrence of infringement or rush to register, timely collect evidence and investigate, and report to the industrial and commercial administrative department for investigation and punishment.

In terms of trade secret protection, as the intangible property of the Company, we carry out relevant work in strict accordance with the principle of "who is in charge of the business, who is responsible for confidentiality". The Company implements classified management according to the degree of confidentiality. In case of cooperation with external suppliers involving trade secrets, an advance confidentiality agreement must be signed. In case of theft, loss or loss of business secrets, remedial measures shall be taken in time to form a written report.

3.2 Integrity and Compliance

AAG Energy abides by business ethics, complies with applicable laws and regulations and various regulatory provisions, adheres to the business philosophy of honest, trustworthy and compliant operation, constantly improves the business ethics system and anti-corruption mechanism, strictly prevents insider trading, strengthens awareness management, builds a clean culture, improves risk control ability, and strives to create a green, compliant, healthy and safe business environment. 這些研究與實驗均對開發方案的優化與 產能預測起到了重要作用,讓煤層氣開 發變得更具有確定性。

專利管理方面。公司風控合規部通過開 展專利知識培訓,提升員工專利保護意 識,組織舉辦發明創造活動,激發技術 創新能力。為避免侵權行為,專利項目 開發立項前期,公司邀請專業機構進行 風險監測;在項目規劃、設計與開發過 程,及時通過風控合規部取得法律保護; 如發現侵權行為,公司及時進行調查取 證工作,必要時將請示專利管理機關處 理或發起訴訟。

商標管理方面。公司依據商標管理流程 制度,開展商標申請、註冊、續展、轉 讓、評估、使用許可審核及辦理等流 程。針對侵權或搶注事件的發生,及時 取證調查,上報工商行政部門進行查處。

商業秘密保護方面。作為公司無形財 產,我們嚴格遵照「業務工作誰主管,保 密工作誰負責」的原則開展相關工作。 公司內部按照涉密程度實行分類管理, 與外部供應商涉及商業秘密合作則須簽 訂事前保密協議。如發生商業秘密被 盜、遺失或失控等情況,及時採取補救 措施,形成書面報告。

3.2 堅守誠信合規

亞美能源恪守商業道德,遵循所適用的 法律法規及各項監管規定,秉持誠實守 信、合規經營的經營理念,不斷完善商 業道德體系與反腐倡廉機制,嚴防內幕 交易,加強意識管理,建設廉潔文化, 提升風險管控能力,致力打造綠色合 規、健康安全的經營環境。

Integrity and Compliance

AAG Energy always adheres to the business values of fairness, transparency, integrity and integrity, and strictly complies with relevant laws, regulations and normative requirements such as the Company Law of the People's Republic of China, the Supervision Law of the People's Republic of China, the Antimoney Laundering Law of the People's Republic of China, the Anti-unfair Competition Law of the People's Republic of China, and the Interim Provisions on the Prohibition of Commercial Bribery. By formulating a number of internal systems such as a Progressiveness Standardized Internal Control Management System, Anti-fraud and Reporting Regulations, the Company's operation was ensured to be clean and efficient.

The Company has strengthened its corporate governance and internal controls, standardized business operations, and maintained the integrity of commercial transactions by establishing a well-structured and clear responsibility regulatory mechanism.

- Audit Committee of the Board: comprehensively supervise the Company's financial reporting, risk management and internal control system, ensure the coordination between internal auditors and external auditors, supervise the effectiveness of the internal audit department, and investigate and deal with senior management's suspected fraud and corruption.
- Senior management: continuously improve the internal control system to prevent fraud, create a better anti-fraud cultural environment, and establish a company-wide Anti-Fraud Committee to accept, investigate, determine whether the case can be closed, reward and punish the informant and make decisions on other possible follow-up actions.
- **Risk Control and Compliance Department:** to prevent and detect fraud, the department has established a robust anti-fraud and reporting mechanism with a dedicated reporting channel. Effective control measures have been implemented to reduce the chances of fraud occurring and to work closely with the Company to investigate fraudulent cases.

商業道德管理

亞美能源始終秉承公平透明、廉潔誠信 的商業價值觀,嚴格遵守《中華人民共和 國公司法》《中華人民共和國監察法》《中 華人民共和國反洗錢法》《中華人民共和 國反不正當競爭法》《關於禁止商業賄賂 行為的暫行規定》等相關法律法規及規範 性要求。通過制定《先進性標準化內控管 理制度》《反舞弊與舉報規定》等多項內部 制度,確保公司運營的廉潔高效。

加強公司治理和內部控制,規範經營行 為,維護公司商業交易的廉正性,公司 設立了架構分明、職責清晰的監管機制。

- 董事會審核委員會:全面監管公司 的財務申報、風險管理及內部監控 系統,確保內及外聘審計師的工作 得到協調,監督內部審計部門的有 效性,並對疑似公司高管層面的舞 弊及腐敗行為進行調查及處理。
- 高級管理層:持續完善預防舞弊的 內部控制體系,打造良好的反舞弊 文化環境,並成立公司層面的反舞 弊委員會,對疑似舞弊和腐敗行為 進行受理、調查、確定是否可以結 案、對舉報人的獎勵及懲罰及對後 續可能採取的其他行動作出決策。
- 風控合規部:建立良好的反舞弊與 舉報機制,設立舉報投訴渠道防範 和發現舞弊,並實施有效的控制措 施以降低舞弊發生的機會,協同公 司調查舞弊案件。

In 2022, AAG Energy continued to strengthen its special audit work, focusing on in-depth investigations into fraud, engineering and bidding management. The Company continually improved its internal control mechanisms and reduced the risk of fraud. Building upon existing risk management practices, the Company optimized 88 risk list items, increased the frequency of audit follow-ups, and conducted internal control audits of five areas of business: funds and expenses, investment management, asset management, procurement and supplier management, and engineering management.

Building the Culture of Integrity

AAG Energy has established a sound anti-corruption reporting system and has set up various reporting channels such as letters, mailboxes, WeChat official accounts, telephone hotlines, etc., to accept and actively deal with reports from employees and social figures. The Company puts the protection of informants' information in the first place, strictly controls the reporting acceptance and investigation process, and ensures the confidentiality of informants and information. In 2022, there were no corruption-related lawsuits in AAG Energy.

The Company is committed to promoting a culture of integrity through training, to strengthen employees' anti-corruption awareness and to help create a fair and just business environment. In 2022, the Company developed a plan for building a culture against fraud, which included quarterly antifraud knowledge sharing events, signing the *Integrity Commitment of AAG Energy* with employees, revising the *Supplier Integrity Transaction Commitment Letter*, conducting anti-fraud training, and holding an anti-fraud culture promotion month to create a culture against fraud and enhance employee awareness of anti-fraud culture and integrity behavior. During the reporting period, a total of 495 people participated in the online training course "Anti-fraud and Digital Solutions", and the average reading rate of the anti-fraud knowledge sharing on the WeChat platform was 276. 2022年,亞美能源持續加強專項審計工 作,深入舞弊專項調查、工程管理及招 投標管理專項審計工作,不斷完善內控 建設工作,降低舞弊風險。在原有風險 管理的基礎上,對88項風險清單內容進 行優化,增設審計整改跟蹤頻率,開展 資金及費用、投資管理、資產管理、採 購及供應商管理、工程管理5項業務的 內控審計。

廉正文化建設

亞美能源設立了完善的反腐敗舉報體 系,搭建了信件、郵箱、微信公眾號、 電話熱線等多種舉報渠道,接受並積極 處理員工與社會人士的舉報事項。公司 將舉報人信息保護工作置於首位,嚴格 把控舉報受理與調查流程,保障舉報人 與舉報資料的保密性。2022年,亞美能 源未發生腐敗相關訴訟案件。

公司致力通過廉潔文化培訓,加強員工 反腐意識,助力營造公平公正的企業環 境。2022年,公司制定了反舞弊文化建 設方案,通過每季度舉辦1次反舞弊知 識分享活動、與員工簽署廉正亞美承知 書、修訂《供應商誠信交易承諾書》、開 展反舞弊培訓、舉辦反舞弊文化宣傳月 活動等方式,營造反舞弊文化氛圍,提 升員工反舞弊文化理念,強化廉潔行為 意識。報告期內,共495人參與《反舞弊 與數字化解決方案》線上培訓;借助微信 平台開展的反舞弊知識分享平均閱讀量 276人次。

3.3 Supporting Suppliers to Grow Together

AAG Energy continuously improves supplier management by developing a Supplier Manual, adding the Strategic Intention Supplier Selection and Evaluation Management Measures, and revising the Supplier Management Regulations. Through a comprehensive process that includes classification, assessment, admission, relationship management, performance evaluation, and exit procedures, the Company standardizes the full lifecycle management of suppliers. This approach strengthens communication with suppliers and works hand in hand with them to create a transparent, high-quality, safe, and sustainable production environment."

We adhere to the concept of "introducing famous and highquality products in the market and cooperating with suppliers with a certain market share". Based on the *Supplier Management Regulations*, we investigate and review the qualification, technical capability, management system, equipment level and sustainable management system of suppliers through supplier access management, establishment and use of supplier database, classification and performance evaluation of suppliers, etc. In our daily life, we carry out supplier evaluation by combining "dynamic tracking" and "regular evaluation" to urge suppliers to apply energy-efficient environmental protection equipment, enhance the enthusiasm of suppliers for cooperation, and improve the overall performance of suppliers.

In 2022, we optimized the supplier access procedures and standards, and formulated different inspection plans for different types of suppliers. In order to break through the pressure of the epidemic, we added online technical exchange and remote training and investigation programs, and organized partner's representatives, project business representatives, and risk control and compliance departments to audit suppliers online to ensure the introduction of high-quality new suppliers.

In order to implement the Company's strategic planning and development objectives, we have formulated the implementation plan for the supplier strategic cooperation conference, assisted in the establishment of the strategic supplier system, jointly selected the list of participating suppliers and proposed the list of potential suppliers for cooperation with various businesses, and led the organization of substantive strategic negotiations for many times. During the reporting period, we have signed 10 letters of intent of the *Strategic Cooperation Agreement*.

3.3 供應商共同成長

亞美能源不斷規範供應商管理,制定《供 應商手冊》,新增《戰略意向供應商選評 管理辦法》,修訂《供應商管理規定》,通 過分類、考察、准入、關係管理、績效 考核、退出相關程序等流程,規範供應 商全生命周期管理,強化與供應商的溝 通,與供應商攜手,共同打造陽光透 明、優質安全的可持續的生產環境。

我們堅持以「引入市場中名優產品,與 有一定市場佔有率的供貨商合作」為理 念,基於《供應商管理規定》,通過供應 商准入管理、搭建並使用供應商庫、對 供應商進行分類與績效考核等方式,考 察與審核供應商的資質、技術能力、管 理制度、設備水平、可持續管理體系。 日常生活中,我們以「動態跟蹤」與「定 期評價」相結合的方式開展供應商評假 工作,以督促供應商應用高能效環保設 備,增強供方合作積極性,提升供應商 的整體績效。

2022年,我們優化了供應商准入程序及 准入標準,針對不同類別的供應商制定 不同的考察方案。為突破疫情影響壓 力,我們增設線上技術交流與遠程實訓 考察方案,組織中方代表、項目業務代 表、風控合規部等通過線上方式對供應 商進行審核,以保障引入優質的新供應 商。

為踐行公司戰略規劃發展目標,我們制 定了供應商戰略合作大會實施方案,助 力戰略供應商體系建立,並聯合各個業 務推選與會供應商名單及擬定潛在供應 商合作名單,多次牽頭組織開展實質性 戰略談判,報告期內已完成10家《戰略 合作協議》意向書。

In 2022, AAG Energy has 350 suppliers, all from China. According to the performance evaluation system of the supplier information base, the Company inspected 45 suppliers on site and admitted 44, including 20 for construction projects, 24 for technical services and 1 for equipment and materials; 83 suppliers were admitted for exchange and investigation, including 31 for engineering projects, 34 for technical services and 18 for equipment and materials. 2022年,亞美能源共計擁有350家供應 商,全部來自中國境內。公司根據供應 商信息庫績效評價體系,現場考察45家 供應商,准入44家,其中施工工程准入 20家,技術服務准入24家,設備物資1 家;交流考察准入的供應商83家,其中 施工工程准入31家,技術服務准入34 家,設備物資18家。

AAG Energy always adheres to the people-oriented human resource concept, spares no effort in the selection and development of outstanding talents. It is committed to building a fair and open talent management system, creating a diverse, inclusive and open working environment, providing effective rights and interests protection for employees, promoting employees to maximize their potential, supporting employees to realize their self-worth, and working with employees to advance and grow together.

4.1 Respecting Employees' Rights and Interests

The Company always places the protection of employees' rights and interests at the core of talent management. We regard employees as one of the key factors for our success in the CBM market. We are committed to effectively safeguarding their rights and interests, continuously seeking various benefits for them, and enhancing their sense of happiness and belonging.

Employment

AAG Energy abides by the Labor Law of the People's Republic of China, the Labor Contract Law of the People's Republic of China and other laws and regulations, formulates internal rules and regulations such as the Labor Contract Management Rules, the Employee Handbook, the Entry and Exit Management Operation Procedures, and the Recruitment Implementation Rules, adheres to diversification and inclusiveness, constantly optimizes the employee structure, and is committed to optimizing the workforce structure by gender, age and region.

The Company always respects the contributions made by its employees and provides them with solid talent guarantees to achieve the Company's vision and strategic goals. We have developed various management methods for employees in different positions and established comprehensive career development platforms. To enhance employees' sense of ownership, we offer service length salary subsidies to employees who have worked for the Company for one year or longer, which increases annually. To encourage employees' enthusiasm, creativity, and productivity, promote our family-like culture, enhance employees' sense of belonging and achievement, and empower elite employees to create value, we conduct strict performance evaluations based on performance evaluation guidelines, and distribute performance bonuses according to the evaluation results and performance bonus distribution plan. During traditional Chinese holidays, we send holiday greetings to employees, organize holiday interactive activities, and provide holiday benefits. We also provide birthday benefits to employees during their birthday month.

亞美能源始終秉承以人為本的人才理念,在甄 別和發展優秀人才方面不遺余力,致力於構建 公平、公正、公開的人才管理體系,打造多 元、包容、開放的工作環境,為員工提供切實 有效的權益保障,促使員工發揮最大潛能,支 持員工實現自我價值,與員工攜手共進、共同 成長。

4.1 尊重員工權益

本公司始終將保障員工權益置於人才工 作的核心位置,把員工視為公司在中國 煤層氣市場取得成功的關鍵因素之一, 切實有效地維護員工各項權益,持續不 斷地為員工謀取多種福利,從而增強員 工幸福感與歸屬感。

員工僱傭

亞美能源恪守《中華人民共和國勞動法》 《中華人民共和國勞動合同法》等法律法 規,制定《勞動合同管理細則》《員工手 冊》《入離職管理操作流程》《招聘實施細 則》等內部規章制度,堅持多元化與包容 性,不斷優化員工結構,致力於推動員 工性別、年齡、地區合理分布。

公司始終尊重員工為公司做出的貢獻, 為增強員工主人翁精神,向工作滿一年 的員工發放司齡工資補貼,逐年遞增; 為鼓勵員工的積極性、建設性和創造 性,傳播企業親人文化,提升員工的饋 屬感和獲得感,賦能精英員工的價值創 造,通過績效考核細則進行嚴格考核, 依據考核結果及績效獎金分配方案為員 工致以節日祝福,舉辦節日互動活動和 發放節日福利,並在員工生日當月發放 生日福利。

Chart: Workforce in 2022 表: 2022年員工概況

Category 指標名稱		in 2022 2022年
Total employees 僱傭總人數		531 persons人
Number of employees by age 按年齡結構劃分的員工人數	<30 years 30歲及以下	95 persons人
	31–50 years 31–50 歲	385 persons人
	≥ 51years 51歲及以上	51 persons人
Number of employees by employment type 按僱傭類型劃分的員工人數	Labor contract 勞動合同	526 persons人
	Service contract 勞務合同	5 persons人
Number of employees by gender 按性別劃分的員工人數	Male 男員工	440 persons人
	Female 女員工	91 persons人
Number of employees by region 按地區劃分的員工人數	Other province and cities 外省市	152 persons人
	Beijing 北京	2 persons 人
	Shanxi 山西	377 persons人
Turnover number 員工流失人數		5 persons人
Turnover rate 員工流失比例		0.93%
Turnover rate by gender 按性別劃分的員工流失比例	Male 男員工	0.90%
	Female 女員工	1.09%
Turnover rate by region 按地區劃分的員工流失比例	Other province and cities 外省市	2.56%
	Beijing 北京	0.00%
	Shanxi 山西	0.26%
Turnover rate by age 按年齡結構劃分的員工流失比例	<30 years 30歲及以下	2.06%
	31–50 years 31–50 歲	0.52%
	≥ 51years	1.92%

51歲及以上

AAG Energy respects the efforts of every employee and pays back the hard work of employees. The Company strictly follows the national regulations on employees' vacation, and protects the rights and interests of employees on statutory holidays. The Company pays basic insurance for employees, including endowment insurance, medical insurance, unemployment insurance, work-related injury insurance, housing provident fund and supplementary medical insurance. In 2022, the coverage of basic insurance has reached 100%. In addition, AAG Energy continues to adopt the employee system in 2020, provides commercial insurance for all employees and offered employees and their children protection for critical diseases, accidents, hospitalization, outpatient, emergency and other matters. During the reporting period, the Company handled 1,130 claims for medical reimbursement, with a claim amount of RMB280,000.

Labor Rights

AAG Energy strictly abides by the laws and regulations including the Labor Law of the People's Republic of China, the Labor Contract Law of the People's Republic of China, and the Regulations on Prohibition of the Use of Child Labor. It also internally formulates the Recruitment Policy to prohibit and resist any form of child labor employment and forced labor, resolutely oppose all forms of employment discrimination, and treat employees of different gender, nationality, region, religious belief and cultural backgrounds fairly. During the reporting period, there were no violations related to child labor or forced labor that occurred in the Company. 亞美能源尊重每一位員工的努力,用心 回饋員工的辛勤付出,嚴格遵循國家要 求的員工休假規定,保障員工享有法定 節假日的權益,並依照相關法律規定為 員工提供養老保險、醫療保險、失業 險、工傷保險、住房公積金及補充醫療 保險等基本保險保障。2022年,公司五 險一金保障覆蓋率達100%。此外,公司 延續2020年員工制度保障,為全體員工 提供商業保險,針對員工及其子女的司 提供商業保險,針對員工及其子女的司 提供商業保險,針對員工及其子女的是 供保障。報告期內,共處理員工醫療報 銷理賠案件1,130人次,理賠金額達到28 萬元。

勞工權益

本公司嚴格遵守《中華人民共和國勞動 法》《中華人民共和國勞動合同法》《禁止 使用童工規定》等相關法律法規,於內部 制定《招聘政策》,嚴禁和抵制任何形式 的童工僱傭和強制勞工行為,堅決反對 一切形式的就業歧視,公平、公正對待 不同性別、民族、地區、宗教信仰和文 化背景的員工。報告期內,本公司未發 生過僱傭童工、強迫勞工等違規事件。

4.2 Supporting Employee Development

AAG Energy attaches great importance to employee development, provides resources and support for employees, defines the growth, promotion and career development path of each employee, and constantly improves the talent training system and diversified career development channels.

Talent Team Building

AAG Energy has shifted from passively selecting talent based on job requirements to proactively selecting talent based on strategic development needs, providing a solid talent guarantee for achieving the Company's vision and strategic goals. The Company has developed targeted management methods for employees in different positions and built a comprehensive career development platform in all aspects.

In 2022, the Company hired a professional organization to evaluate and take stock of the leadership skills of mid to highlevel management. Based on the evaluation report and common areas of development for teams, the Company formulated a comprehensive training plan for mid to high-level managers called *Talent Inventory-based Comprehensive Management Training Program*. This program will improve their skills through comprehensive and systematic training in areas such as culture, system, and individual development plan enhancement.

Furthermore, in accordance with the Talent Pipeline Development and Management System, the Company has identified and prioritized 43 key employees in the talent pool, such as mid-level and critical positions, for focused training. Individualized Employee Development and Training Plans have been created for each of them, and they are being trained through coaching, job rotation, internal training, and serving as lecturers. Half-yearly and yearly comprehensive evaluations are conducted, and the talent database is continuously updated to ensure the Company's talent reserves and development for their ongoing career growth.

4.2 助力員工發展

亞美能源十分重視員工發展,為員工提 供資源與支持,明確每位員工的成長、 晉升和職業發展路徑,不斷完善人才培 養體系與多元化的職業發展通道。

人才梯隊建設

亞美能源從被動地依據工作崗位需要選 拔人才,向主動地依據戰略發展需要選 拔人才轉變,為實現企業的願景和戰略 目標提供堅實的人才保障。本公司針對 性地為不同崗位的員工制定了多種管理 辦法,搭建全方位的職業發展平台。

2022年,公司聘用專業機構對中高層管 理人員的領導力進行測評與盤點,並依 據評估報告及團隊共性待發展項,擬定 《基於人才盤點的中高管綜合能力培養方 案》,從文化、制度、個人發展計劃提升 等方面進行綜合性、系統性的培養提升。

此外,公司按照《人才梯隊建設管理制 度》的規定,對中層後備及關鍵崗位等43 位人才庫員工進行重點培養,一對一制 定《員工發展與培養規劃表》,通過教 練、AB角鍛煉、內部培訓、擔任講師等 多種方式進行培養,並開展半年度及年 度綜合評價,動態更新人才檔案,為公 司的人才儲備和輸出理清人才賬本、做 好人才在崗的持續培養。

Professional Training

AAG Energy has formulated system documents such as the *Establishment Plan of Internal Training System* and the *Implementation Rules of Internal Lecturer Management*, dedicated to providing employees with comprehensive and multi-level training activities, creating an employee training system that meets job requirements and career development goals, and fully enhancing employees' professional skills and expertise.

In 2021, 525 employees in AAG Energy attended training, and each employee received 16.16 hours of training.

職業培訓

亞美能源制定《內部培訓體系建立方案》 《內部講師管理實施細則》等制度文件, 致力於為員工開展全方位、多層次的培 訓活動,為員工打造符合崗位要求和職 業目標規劃的員工培訓體系,全面提升 員工職業技能和專業素養。

2022年,亞美能源員工參加人才教育培 訓總人數525人,平均培訓時長為16.16 小時/人。

Chart:2022 Employee Training in 2022 表:2022年員工受訓情況

Category 指標名稱		in 2022 2022年
Number of Trained Employees by Gender 按性別劃分的受訓僱員人數	Male 男員工	435 persons 人
	Female 女員工	90 persons人
Percentage of Trained Employees by Gender 按性別劃分的受訓僱員百分比	Male 男員工	98.86%
	Female 女員工	98.90%
Number of Trained Employees by Category 按僱員類型的受訓僱員人數	Senior Management 高層員工	10 persons 人
	Middle Management 中層員工	31 persons人
	Staff 普通員工	484 persons 人
Percentage of Trained Employees by Category 按僱員類型的受訓僱員百分比	Senior Management 高層員工	100%
	Middle Management 中層員工	96.88%
	Staff 普通員工	98.98%
Trained Hours by Gender 按性別劃分的受訓人均小時數	Male 男員工	7,251.88 Hours小時/Person人
	Female 女員工	1,230.83 Hours小時/Person人
Trained Hours by Category 按僱員類型的受訓人均小時數	Senior Management 高層員工	103.01 Hours小時/Person人
	Middle Management 中層員工	857.14 Hours小時/Person人
	Staff 普通員工	7,522.56 Hours小時/Person人

Initiative I: Curriculum System for Employee Training

In 2022, according to the 3–5 year plan and the 2022 work plan of the AAG Energy curriculum system, the Company completed the development of six professional course systems, including the procurement system, market system, pre-settlement system, external liaison system, investment development system, and risk control compliance system. As of now, through multiple meetings, course writing, review and revision, the Company has completed the drafting of 233 courses in 16 internal professional fields and invited internal lecturers to teach courses for employees with learning needs.

Initiative II: Employee Training Pattern

To deeply combine talent development and development strategy, AAG Energy has designed four types of training patterns: orientation program for the new employee, internal training, external training to internal training and special promotion training.

員工培訓課程體系

2022年,根據亞美能源課程體系3-5年 規劃及2022年工作計劃,本公司完成了 採購體系、市場體系、預結算體系、外 聯體系、投資發展體系、風控合規體系 六大專業課程體系開發。截至目前,通 過多次會議研討、課程撰寫、評審及修 訂,公司已完成內部16個專業233門課 程的擬定,並邀請公司內部講師對有學 習需求的課程進行授課。

員工培訓模式

亞美能源為加強人才發展與發展戰略的 深度融合,特制定以新員工入職培訓、 內部培訓、外部培訓轉內部培訓、專項 提升為主的四類培訓。

Orientation program for new employees 新員工入職培訓	In 2022, 36 new employees received training on corporate culture, administration, finance, human resource, safety and position responsibilities when they were onboard. We ensured 100% of the new employees completed the orientation, passed the assessment, and accepted pre-job training after passing the exam at their departments. 2022年,公司入職新員工36人,在入職後均進行了企業文化、行政、財務、人力、安全及崗位職責等相關培訓,確保新入職員工100%完成入職培訓並通過考核,考核合格後由相關部門開展崗前培訓。
內部培訓	Using the Company's internal lecturers and curriculum system resources, the Company organizes employees to carry out the training of professional skills and cross-professional open courses at the Company level and department level every month, with a total of 5,415 hours of training organized throughout the year, so as to strengthen internal skills, accumulate experience and improve the Company's overall learning atmosphere.
Internal training	利用公司內部講師及課程體系資源,公司每月從公司層面、部門層面組織員工進行本專業技能、跨專業公開課的培訓,全年共組織培訓約5,415小時,以此強化內部技能、沉澱經驗、提升公司整體學習氛圍。

External training In 2022, the Company conducted 148 external training sessions, with 3,067.71 hours. 外部培訓 The training content includes various policy requirements, operation certification, special skills improvement, etc. We also conducted some external to internal training, mainly on non-certification training to expand the training effect and optimize the use of training resources. 2022年,公司共計外出培訓148次,培訓時長達3,067.71小時,培訓內容包含各種政策 要求、作業取證、專項技能提升等,對非取證類的培訓要求培訓員工在部門或專業內 部進行轉訓,擴大培訓效果,優化培訓資源使用。 Special training After conducting a survey of the training needs of employees in different positions and 專項培訓 identifying the areas where the Company needs to improve its capabilities based on its strategic goals, the Company invited external professional organizations to provide targeted training for different groups. These training programs included "Systematic Thinking and Decision Making," "Human Resource Management for Non-HR Professionals," "Project Risk Management," and "Building High-Performance Teams." The training aimed to enhance thinking and decision-making skills, project and business management, and team management. The training had high participation rates, with an average of over 50 people attending each session, and a satisfaction rate of 97%. 通過調研不同崗位員工的培訓需求,結合公司戰略及各部門能力短板的提升需求,公 司邀請外部專業機構對不同群體進行專項培訓,具體包括《系統化思考與決策判斷》《非 人力資源的人力資源管理》《項目風險管理》《打造高效能團隊》等,實現思維決策、項目 業務管理、團隊管理的多層次、全方位提升,培訓整體參與度較高,每場平均參與人 數超50人,滿意度達97%。



Figure: Systematic Thinking and Decision Judgment Training (Pan Zhuang) 圖:《系統化思考與決策判斷》培訓(潘莊)



Figure: Training on Systematic Thinking and Decision Judgment (Mabi) 圖:《系統化思考與決策判斷》培訓(馬必)



Figure: Training on Building an Efficient Team 圖:《打造高效能團隊》培訓



Figure: Training on Human Resources Management without Human Resources 圖:《非人力資源的人力資源管理》培訓

4.3 Employee Care

AAG Energy is committed to strict compliance with laws and regulations related to workplace safety, such as the *Safe Production Law of the People's Republic of China* and *Fire Protection Law of the People's Republic of China*. The Company continues to strengthen the implementation of its internal occupational health and safety management system to ensure the safety and health of its employees. To show care for employees, the Company organized various employee activities such as AAG Energy Baby Back Home, AAG Red Army, Welcome Party, care during the pandemic, riddle guessing at Lantern Festival, and exemplary individual selection in 2022.

Case: The Third AAG Energy Family Open Day on International Children's Day "AAG Energy Baby Back Home"

In order to continuously stimulate the employees' happiness, AAG Energy started to hold the first AAG Energy Family Open Day with the theme of "AAG Energy Baby Back Home" in 2020. In 2022, the Company followed the tradition of open day activities for employees' family members and family-like culture to invite the Company's employees under the age of 14 and their family members to visit the Company, understand their parents' daily working environment, carry out parent-child fun interactive games, and let employees and their family members feel the warmth of the AAG family.

4.3 關愛員工生活

亞美能源嚴格遵守《中華人民共和國安全 生產法》《中華人民共和國消防法》等與工 作場所安全有關的法律法規,持續強化 內部職業健康安全管理制度的建設和實 施,切實保障員工的安全與健康。為凝 聚員工力量,切實關心和關愛員工, 2022年,本公司分別開展了亞美寶貝回 家、亞美紅軍、迎新會、疫情關懷、元 宵節猜燈謎、評選先進個人等員工活動

案例:第三屆員工家屬公開日 一「亞美 寶貝回家」

為不斷激發員工幸福正能量,亞美能源 於2020年舉辦首屆以「亞美寶貝回家」 為主題的員工家屬公開日。2022年,公 司沿襲員工家屬公開日活動傳統,秉承 親人文化理念,邀請公司14周歲以下的 員工寶貝和家屬前來公司參觀,了解父 母日常工作環境,開展親子趣味互動遊 戲,讓員工及員工家屬感受亞美大家庭 的溫馨氛圍。



Figure: the Third AAG Energy Family Open Day 圖:第三屆員工家屬公開日活動

Case: Raise the Sail of Culture for "AAG Red Army" — Month of Corporate Culture

In 2022, AAG Energy held a Month of Corporate Culture to increase employees' sense of identification and confidence in our corporate culture, inspire their work enthusiasm and passion, enrich their leisure time with cultural activities, and create a positive and healthy cultural atmosphere. The event included various activities such as the promotion of cultural courseware, exams, quizzes, micro-video shooting, and the election of AAG Culture Ambassadors.

案例:揚文化之帆,煉「亞美紅軍」— 企 業文化月活動

為增強員工對企業文化的認同感和自信 感,激發員工的工作積極性和熱情,豐 富員工業余文化生活,營造積極向上、 健康的文化氛圍。2022年,亞美能源舉 辦企業文化月,開展文化課件推送、考 試、競答、微視頻拍攝、亞美文化大使 選舉等活動。





Figure: Month of Corporate Culture 圖:文化月活動

Newcomer Welcoming Party

In addition to new employee onboarding training, has organized a new employee welcome event to gain a better understanding of new employees' level of engagement with Ameco's culture and their integration into the team in combination with the current induction frequency and mode. As the onboarding of new employees can be a cultural collision between two companies or a collision between an educational institution and society, the Company proactively welcomes and guides new employees to quickly integrate into the new collective. This is particularly important given the varying backgrounds of new employees from schools or society.

案例:新員工迎新會

在新員工入職培訓的基礎上,結合亞美 目前新員工入職頻次和模式,為更好地 了解新員工入職企業後對亞美文化的認 可度和新團隊的融入程度,亞美能源開 展新員工迎新活動。新員工入職是兩個 企業的文化碰撞,也有可能是一個學校 與社會的思想碰撞,當來自學校或者來 自社會的不同群體入職時,需要我們企 業張開懷抱去主動擁抱新員工、帶領新 員工迅速融入新集體。



Figure: 2022 New Employee Orientation Meeting 圖:2022 年新員工迎新會

Case: caring activities during pandemic

AAG Energy organized a series of caring activities to help employees relieve depression caused by the pandemic and show the Company's care for employees. Activities included AAG Letters and fitness Punch-in.

案例:疫情關懷活動

為幫助員工舒緩因疫情帶來的壓抑情 緒,體現公司對員工的關懷,亞美能源 特組織開展疫情關懷系列活動,如亞美 家書、健身打卡等。



Figure: AAG Letters 圖:亞美家書活動



Figure: Fitness Punch-in 圖:健身打卡活動

AAG Energy is passionate about community welfare and committed to creating public welfare projects that reflect the Company's unique values. Our goal is to foster a community spirit of mutual support and contribute to rural revitalization, thereby promoting the development of a harmonious society. To achieve this, we have engaged a thirdparty professional organization to design a specialized community project system tailored to the specific needs of Ameco Energy. This system is structured around three key areas: planning, management, and communication, and is based on the Company's social responsibility philosophy, ensuring the effective management of our community projects. 亞美能源熱心於社區公益事業,致力於打造極 具亞美特色的公益項目,為實現互幫互助的溫 暖社區不懈努力,積極助力鄉村振興,貢獻和 諧社會建設。此外,我們也聘請第三方專業機 構為公司構建了專屬於亞美能源的特色社區項 目體系,即以規劃、管理和傳播等三方面為框 架,結合公司的社會責任理念,健全社區項目 管理機制。

During the reporting period, we invested RMB458,500 in total in the community.

報告期內,我們社區總投入達45.85萬元。



Figure: Community Work Model of AAG Energy 圖:亞美能源社區工作模型

5.1 Contributing to Rural Revitalization

AAG Energy places a high value on promoting rural revitalization and considers it a social responsibility to provide support for such efforts. The Company leverages its strengths to effectively implement targeted assistance programs, contributing to the comprehensive revitalization of rural areas while fulfilling its corporate mission and demonstrating its commitment to social responsibility. In 2022, we responded actively to the national call for poverty alleviation and assisted in connecting poverty alleviation achievements with rural revitalization efforts, using methods such as "purchase for donation and poverty alleviation through consumption" to help promote rural revitalization.

Case: Poverty Alleviation Through Consumption in Yangzhuang Village, Shizhuang Town Themed "Company's Charitable Poverty Assistance to Warm the Underdeveloped" On 4 January 2023, AAG Energy once again came to Yangzhuang Village, Shizhuang Town, Qinshui County, Jincheng City, Shanxi Province to continue their public welfare activity of "poverty alleviation and helping through purchase". The and hardworking villagers warmly welcomed us as old friends, sharing the challenges of living under the pandemic and expressing their gratitude for the economic support provided by AAG Energy.

5.1 助力鄉村振興

亞美能源高度重視鄉村振興工作,把助 力鄉村振興作為應盡的社會責任,充分 發揮自身優勢,精準有效開展幫扶工 作,在推進鄉村全面振興中踐行企業使 命、彰顯企業擔當。2022年,我們積極 響應國家號召,助力幫扶地將脱貧攻堅 成果同鄉村振興有效銜接,通過「以購 帶捐、消費扶貧」方式,助力鄉村振興。

案例:「愛心企業扶貧助困 情系公益溫 暖人心」— 柿莊鎮楊莊村消費扶貧主題 活動

2023年1月4日,亞美能源再次來到山西 省晉城市沁水縣柿莊鎮楊莊村開展「扶 貧助困,以購代銷」公益活動。樸實勤勞 的村民們親切熱烈的歡迎著我們這些熟 識的老朋友,述說著疫情下的生活不 易,並感恩亞美公司的經濟援助。

Shanxi due to its geographical uniqueness, cultivates many firstclass local coarse cereals, especially famous for millet. The prime millet varieties produced in Shanxi have become a golden name card of modern characteristic agriculture in Shanxi. Many villagers in the villages near the Company have been planting millet to support their families for generations, but due to transport problems and inadequate information, their millet cannot be fully marketed to the outside. Instead of donating, the Company purchased the millets and effectively opened up sales channels for the overstocked agricultural products. This method of poverty alleviation through consumption solved the worries of farmers and promoted the revitalization and development of the countryside with our concrete actions. 山西因其特殊的地理環境,培育出眾多 質量一流的特色雜糧,而山西小米以其 突出的質量、品種優勢,成為山西現代 特色農業的一張「黃金名片」。位於公司 附近村莊的很多村民世代都靠耕種養 家,但受交通不便、信息不暢等原因制 約,自己耕種的小米無法做到完全外 銷,公司通過「以購帶捐、消費扶貧」方 式,有效幫助滯銷農產品打開銷售渠 道,解決農民後顧之憂,以實際行動助 力鄉村振興發展。





Figure: The Public Welfare Activity "Thanking AAG for Poverty Alleviation" 圖:「感謝亞美獻愛心,助力扶貧得民心」公益活動

5.2 Building Community Together

AAG Energy upholds the importance of public welfare, actively fulfills its social responsibility, and motivates employees to participate in voluntary activities, all to contribute towards creating a more harmonious and friendly society through various public welfare projects. Over the past few years, the Company has consistently carried out initiatives such as visiting and assisting the elderly, effectively showcasing its corporate values of responsibility, gratitude, dedication, and its positive image of serving and giving back to the community. Additionally, the Company has actively participated in anti-epidemic work, collaborating with local governments to combat the pandemic.

Case: Practice Social Responsibility to Deliver Warmth

On 7 September 2022, the Company visited Qinshui County Nursing Home carried out at the Mid-Autumn Festival. This act demonstrated the Company's commitment to serving and contributing to society, showcasing a positive image. As part of their efforts, the Company sent materials, moon cakes, and blessings to almost 100 elderly people, promoting the traditional value of respecting and loving the elderly in Chinese culture. Li Xiuxiu, the director of the president's office, engaged in a friendly conversation with the elderly, inquiring about their wellbeing, including their food, living conditions, and physical health in the nursing home.

5.2 社區共創

亞美能源恪守公益理念,積極踐行社會 責任擔當,鼓勵員工參與志願活動,通 過開展公益項目,助力美好、友善社會 的創建。近年來,公司每年都堅持開展 愛老幫扶、走訪慰問老人等活動,充分 展現了公司責任、感恩、奉獻的企業精 神以及服務社會、奉獻社會的良好形 象。此外,公司積極投身於抗疫工作, 與地方合作,同心抗疫。

案例:踐行社會責任傳遞溫情暖人心

2022年9月7日,亞美能源來到沁水縣敬 老院開展「思念零距離」中秋節慰問活 動,向近百名老人送上了慰問物資、月 餅和中秋祝福,讓他們感受到社會的濃 濃關愛與溫暖,進一步弘揚中華民族敬 老愛老的傳統美德。活動現場,總裁辦 公室主任李秀秀與老人們進行了親切的 交流,詢問並了解他們在敬老院的飲食 起居、身體情況。





Figure: Visiting the Seniors at Qinshui County Nursing Home 圖:沁水縣敬老院慰問活動

	Subject Areas, Aspects, General Disclosures and KPIs 環境、社會及管治範疇與一般披露及關鍵績效指標(KPI)	Response 所在頁碼
Scope: Er 環境	nvironmental	
(b) com issue relating to of hazardo 有關廢氣/ (a) 政策 (b) 遵守 Note: Air emissions Greenhouse hexafluoride Hazardous w	物 Disclosure on on: policies; and pliance with relevant laws and regulations that have a significant impact on the er o air and greenhouse gas emissions, discharges into water and land, and generation bus and non-hazardous waste. 及溫室氣體排放、向水及土地的排污、有害及無害廢棄物的產生等的: ;及 對發行人有重大影響的相關法律及規例的資料。	P.54–P.68
溫室氣體包括	5氮氧化物、硫氧化物及其他受國家法律法規及規例規管的污染物。 5二氧化碳、甲烷、氧化亞氮、氫氟碳化合物、全氟化碳及六氟化硫。 6國家規例所界定者。	
A1.1	The types of emissions and respective emissions data. 排放物種類及相關排放數據	P.59–P.61
A1.2	Direct (Scope 1) and energy indirect (Scope 2) greenhouse gas emissions (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility). 直接(範圍1)及能源間接(範圍2)溫室氣體總排放量(以噸計算)及(如適用)密度(如 以每產量單位、每項設施計算)。	P.56
A1.3	Total hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility). 所產生有害廢棄物總量(以噸計算)及(如適用)密度(如以每產量單位、每項設施 計算)。	P.66
41.4	Total non-hazardous waste produced (in tonnes) and, where appropriate, intensity (e.g. per unit of production volume, per facility). 所產生無害廢棄物總量(以噸計算)及(如適用)密度(如以每產量單位、每項設施 計算)。	P.66
41.5	Description of emissions target(s) set and steps taken to achieve them. 描述所訂立的排放量目標及為達到這些目標所採取的步驟。	P.54–P.55
41.6	Description of how hazardous and non-hazardous wastes are handled, and a description of reduction target(s) set and steps taken to achieve them. 描述處理有害及無害廢棄物的方法,及描述所訂立的減廢目標及為達到這些目標所採取的步驟。	P.66–P.68

	Subject Areas, Aspects, General Disclosures and KPIs 環境、社會及管治範疇與一般披露及關鍵績效指標(KPI)	Response 所在頁碼
資源 General [一般披露		P.69–P.71
	on the efficient use of resources, including energy, water and other raw materials. 資源(包括能源,水及其他原材料)的政策。	
註:	nay be used in production, in storage, transportation, in buildings, electronic equipment, etc. 生產、儲存、運輸、樓宇、電子設備等。	
A2.1	Direct and/or indirect energy consumption by type (e.g. electricity, gas or oil) in total (kWh in '000s) and intensity (e.g. per unit of production volume, per facility). 按類型劃分的直接及/或間接能源(如電,氣或油)總耗量(以千個千瓦時計算)及密度(如以每產量單位、每項設施計算)。	P.71
A2.2	Water consumption in total and intensity (e.g. per unit of production volume, per facility). 總耗水量及密度(如以每產量單位、每項設施計算)。	P.70
A2.3	Description of energy use efficiency target(s) set and steps taken to achieve them. 描述所訂立的能源使用效益目標及為達到這些目標所採取的步驟。	P.69–P.70
A2.4	Description of whether there is any issue in sourcing water that is fit for purpose, water efficiency target(s) set and steps taken to achieve them. 描述求取適用水源上可有任何問題,以及所訂立的用水效益目標及為達到這些目標所採取的步驟。	P.70
A2.5	Total packaging material used for finished products (in tonnes) and, if applicable, with reference to per unit produced. 製成品所用包材料的總量(以噸計算)及(如適用)每生產單位佔量。	不適用
環均 General [一般披露 Policies resources	on minimising the issuer's significant impacts on the environment and natural	P.72–P.80
A3.1	Description of the significant impacts of activities on the environment and natural resources and the actions taken to manage them. 描述業務活動對環境及天然資源的重大影響及已採取管理有關影響的行動	P.72–P.80

Subject Areas, Aspects, General Disclosures and KPIs 環境、社會及管治範疇與一般披露及關鍵績效指標(KPI)	Response 所在頁碼
A4: Climate Change 氣候變化 General Disclosure 一般披露	P.46-P.54
Policies on identification and mitigation of significant climate-related issues which have impacted, and those which may impact, the issuer. 識別及應對已經及可能會對發行人產生影響的重大氣候相關事宜的政策。	
A4.1Description of the significant climate-related issues which have impacted, and those which may impact, the issuer, and the actions taken to manage them. 描述已經及可能會對發行人產生影響的重大氣候相關事宜,及應對行動。	P.46–P.54
Scope: Social 社會	
Employment and Labor Practices 僱傭及勞工準則	
 B1: Employment 僱傭 General Disclosure 一般披露 Information on: (a) the policies; and (b) compliance with relevant laws and regulations that have a significant impact on the issuer relating to compensation and dismissal, recruitment and promotion, working hours, rest periods, equal opportunity, diversity, anti-discrimination, and other benefits and welfare. 有關薪酬及解雇,招聘及晉升,工作時數,假期,平等機會,多元化,反歧視以及其他待遇及福利的: (a) 政策;及 (b) 遵守對發行人有重大影響的相關法律及規例的資料。 	P.90–P.103
B1.1Total workforce by gender, employment type (for example, full- or part-time), age group and geographical region. 按性別、僱傭類型(如全職或兼職)、年齡組別及地區劃分的僱員總數。	P.91
B1.2Employee turnover rate by gender, age group and geographical region. 按性別、年齡組別及地區劃分的僱員流失比率。	P.91

	Subject Areas, Aspects, General Disclosures and KPIs 環境、社會及管治範疇與一般披露及關鍵績效指標(KPI)	Response 所在頁碼
健康 General D 一般披露 Informatic (a) the p (b) com issue relating f occupatio 有關提供 (a) 政策	on on: policies; and pliance with relevant laws and regulations that have a significant impact on the	P.28–P.31
B2.1	Number and rate of work-related fatalities occurred in each of the past three years including the reporting year 過去三年(包括匯報年度)每年因工亡故的人數及比率。	P.28–P.31
B2.2	Lost days due to work injury 因工傷損失工作日數	P.28–P.31
B2.3	Description of occupational health and safety measures adopted, and how they are implemented and monitored 描述所採納的職業健康與安全措施,以及相關執行及監察方法	P.28–P.31
發展 General D 一般披露 Policies c Descriptic 有關提升(Note: Training refe 註:	n improving employees' knowledge and skills for discharging duties at work. on of training activities. 雇員履行工作職責的知識及技能的政策。描述培訓活動。 rs to vocational training. It may include internal and external courses paid by the employer.	P.94–P.98
培訓指職業均 B3.1	 Fill,可包括由僱主付費的內外部課程。 The percentage of employees trained by gender and employee category (e.g. senior management, middle management). 按性別及僱員類別(如高級管理層、中級管理層)劃分的受訓僱員百分比。 	P.94
B3.2	The average training hours completed per employee by gender and employee category. 按性別及僱員類別劃分,每名僱員完成受訓的平均時數。	P.94

	Subject Areas, Aspects, General Disclosures and KPIs 環境、社會及管治範疇與一般披露及關鍵績效指標(KPI)	Response 所在頁碼
	or Standards 運則 Disclosure	P.92
一般 披露	15003016	
Informatio	on on:	
(a) the	policies; and	
(b) com	pliance with relevant laws and regulations that have a significant impact on the	
issue	PL	
U U	relating to preventing child and forced labour. 有關防止童工或強制勞工的:	
(-)	[;及	
(b) 遵守	"對發行人有重大影響的相關法律及規例的資料。	
B4.1	Description of measures to review employment practices to avoid child and forced labor.	P.92
	描述檢討招聘慣例的措施以避免童工及強制勞工。	
B4.2	Description of steps taken to eliminate such practices when discovered. 描述在發現違規情況時消除有關情況所採取的步驟。	P.92

	Subject Areas, Aspects, General Disclosures and KPIs 環境、社會及管治範疇與一般披露及關鍵績效指標(KPI)	Response 所在頁碼
Operatin 操作規程	g Practices	
供照 General [一般披露 Policies c	ply Chain Management [鏈管理 Disclosure n managing environmental and social risks of the supply chain. 鏈的環境及社會風險政策。	P.88–P.89
B5.1	Number of suppliers by geographical region 按地區劃分的供應商數目。	P.89
B5.2	Description of practices relating to engaging suppliers, number of suppliers where the practices are being implemented, and how they are implemented and monitored. 描述有關聘用供貨商的慣例,向其執行有關慣例的供貨商數目,以及相關執行及 監察方法。	P.88–P.89
B5.3	Description of practices used to identify environmental and social risks along the supply chain, and how they are implemented and monitored. 描述有關識別供應鏈每個環節的環境及社會風險的慣例,以及相關執行及監察方法。	P.88–P.89
B5.4	Description of practices used to promote environmentally preferable products and services when selecting suppliers, and how they are implemented and monitored. 描述在揀選供貨商時促使多用環保產品及服務的慣例,以及相關執行及監察方法。	P.88–P.89

	Subject Areas, Aspects, General Disclosures and KPIs 環境、社會及管治範疇與一般披露及關鍵績效指標(KPI)	Response 所在頁碼
產品 General D 一般披露 Informatic (a) the p (b) com issue relating to and servic 有關所提((a) 政策	on on: policies; and pliance with relevant laws and regulations that have a significant impact on the	P.81–P.84
B6.1	Percentage of total products sold or shipped subject to recalls for safety and health reasons 已售或已運送產品總數中因安全與健康理由而須回收的百分比。	不適用
B6.2	Number of products and service related complaints received and how they are dealt with. 接獲關於產品及服務的投訴數目以及應對方法。	P.83
B6.3	Description of practices relating to observing and protecting intellectual property rights. 描述與維護及保障知識產權有關的慣例。	P.83
B6.4	Description of quality assurance process and recall procedures. 描述質量檢定過程及產品回收程序。	不適用
B6.5	Description of consumer data protection and privacy policies, and how they are implemented and monitored. 描述消費者資料保障及私隱政策,以及相關執行及監察方法。	不適用

	Subject Areas, Aspects, General Disclosures and KPIs 環境、社會及管治範疇與一般披露及關鍵績效指標 (KPI)	Response 所在頁碼
反負 General D 一般披露 Informatic (a) the p (b) com issue relating to 有關防治則 (a) 政策	isclosure on on: policies; and pliance with relevant laws and regulations that have a significant impact on the	P.85–P.87
B7.1	Number of concluded legal cases regarding corrupt practices brought against the issuer or its employees during the reporting period and the outcomes of the cases. 於匯報期內對發行人或其僱員提出並已審結的貪污訴訟案件的數目及訴訟結果。	P.87
B7.2	Description of preventive measures and whistle-blowing procedures, and how they are implemented and monitored. 描述防範措施及舉報程序,以及相關執行及監察方法。	P.87
B7.3	Description of anti-corruption training provided to directors and staff. 描述向董事及員工提供的反貪污培訓。	P.87
Communi 社區	ty	
B8: Community Investment 社區投資 P.103–P.106 General Disclosure 一般披露 一般披露 Policies on community engagement to understand the needs of the communities where the issuer operates and to ensure its activities take into consideration the communities' interests.		P.103–P.106
有關以社區 B8.1	區參與來了解營運所在社區需要和確保其業務活動會考慮社區利益的政策。 Focus areas of contribution (e.g. education, environmental concerns, labor needs, health, culture, sport). 專注貢獻範疇(如教育、環境事宜、勞工需求、健康、文化、體育)。	P.103–P.106
B8.2	Resources contributed (e.g. money or time) to the focus area. 在專注範疇所動用資源(如金錢或時間)。	P.103–P.106

Feedback 讀者意見反饋表

Dear Reader:

Thank you for your interest and support in AAG Energy's sustainable development commitments. In order to deliver professional and valuable ESG information to you, as well as to further improve our Sustainable Development Report, your suggestions and feedback are very much appreciated.

- 1. Are you satisfied with this report? Please feel free to share your comments.
- 2. Does this report give you full visibility on our CSR platform?
- 3. Are you able to find the information that you were seeking in this report?
- 4. What are your suggestions for this report?

尊敬的讀者:

非常感謝您對亞美能源控股有限公司可持續發展的關注和支持,為向您提供我們更專業、更 有價值的環境、社會及管治信息,進一步提升 亞美可持續發展報告的質量,歡迎您回答意見 反饋表中的相關問題。

- 1. 您對報告是否滿意?請作出您的評價。
- 您認為我們履行社會責任的情況是否得 到了完整披露?
- 您希望了解的信息在報告中是否被完整 披露?
- 4. 您對報告有哪些改進建議?

Your contact information您的信息:		
Name姓名		
Company工作單位		
Title 職務		
Fax傳真		
Phone Number聯繫電話		
E-mail電子郵件		



亞美能源控股有限公司 AAG Energy Holdings Limited