



A Study on Energy Exploitation using PROMETHEE Analysis

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Abstract

Exploitation of natural resources, with its negative connotation sometimes associated with environmental degradation, refers to the use of natural resources for economic development. Exploitation of Hard and environmentally sensitive areas – Sometimes they use environmental sensing parts. Countries want to find new sources of energy, as the energy desire to protect the environment outweighs the choice, fragile ecosystems may be at risk. The continued exploitation of these fossil fuels is not without adverse effects on the environment. Gas flaring and oil spills during exploration, transportation, use and disposal have led to land degradation, water pollution and air pollution. The importance of energy research for sustainable development derives from the fundamental fact that increases in knowledge enhance the ability to design improvements – and advances in technology form the basis for maintaining and expanding the scope of development for future generations. Scenarios are given as substitution values and criterion evolution parameters. Prometheus method is used to find the Scenarios 4 First rank and second rank scenarios². And the last rank is Scenarios 1. Energy exploitation - the creation and use of natural energy resources for maximum benefit, usually for profit.

Introduction

Creating and using natural energy resources for maximum benefit, usually for profit. Energy company executives plan to take all fossil fuels out of developing countries at huge profits for their company. Espladate's OP Physical and Environmental Sensibility Paris Conris Seed New Sources OP Energy, sometimes they use environmentally-sensitive areas. As the energy desire to protect the environment outweighs the choice, fragile ecosystems may be at risk. The continued exploitation of these fossil fuels is not without adverse effects on the environment. Gas flaring and oil spills during exploration, transportation, use and disposal have led to land degradation, water pollution and air pollution. Exploitation is the selfish use of a person or a group of people for their own or personal gain. Sustained use and over-exploitation of natural resources continue to pose a greater threat to biodiversity than reproduction of wild plant and animal species during harvesting. Two types of exploitation gain particular prominence in this evidence package sexual exploitation and exploitative child labour. The priority ranking system method for assessment enrichment and its descriptive complementary geometric analysis for interactive assistance are better known as the Prometheus and Gaia methods. Preference- Scale translation is a mathematical technique that maps specific preferences to actual purchase behavior, which marketers use to convert purchase probabilities into estimates. It takes survey data about consumer preferences and converts it into actual purchase probabilities.

PROMETHEE

PROMETHEE family outreach methods and PROMETHEE is an efficient method for finite alternatives, along with other methods for multicriteria analysis. A ranking system relatively simple in conception and application. A comprehensive search was carried out using library databases Identify those journal papers that describe writing methods applications PROMETHEE and GAIA were classified as PROMETHEE used in flight. Further, documents Areas under application are classified under nine different subcategories headings. The advertisement documents The proposed scheme is classified as Application Papers and Non-Application Papers then MCDA methods using Year of Publication, Issue Magazine, Nationality of authors, and others. Their main features are simplicity, clarity and certainty. The concept of common criteria is used create valuable relationships. We present Prometheus Advanced methods in multivariate analysis, a new class of methods. We can also conclude that PROMETHEE's contribution to Gaussian-like stability and 'soft' preference functions should be used more frequently. The second phase its selected in the first step for each industry, PROMETHEE decision making method was used. Information needed to implement this method was collected through a structured questionnaire filled by experts. Based on from this analysis, recommendations are made for consolidation several useful AHP features with PROMETHEE, especially the Determining the design and weights of the decision hierarchy. The basis of both methods is that functional synergies can be achieved as a result of blending features. That helps solve decision problems. In this context, it is considered an extension of PROMETHEE. With PROMETHEE, more than seven alternatives and we face evaluation tables. The largest includes more than seven criteria. The Used for the problem of choosing milling machines to buy. The proposed approach is in an international organization. AHP is used Sensitivity analysis with modification is also used. PROMETHEE US is also Derivation of the final fraction Measure the weights of the rank's weights used to determine, we will use AHP method and PROMETHEE A method for Analytical priorities are determined. Equipment selection problem

framework Along with the framework mentioned above, the weights obtained from the proposed approach AHP are included in the PROMETHEE calculations using them. Alternate based on these weights. Assigns weights to criteria, AHP is used to select devices, Collaborative PROMETHEE and AHP in the proposed approach. According to the criteria identified Based on comparison of alternative devices. Problem with this test Prometheus' Choice of available equipment differs from the literature. Method takes into account In this way; Each criterion is different and the performance of each criterion can be evaluated based on priority is Better decisions can be made. Decisions are made by decision makers. Alternatives A comparison we have applied PROMETHEE and GAIA methods for nuclear waste management problem. A very large number of scenarios can be imagined, which must be evaluated against a small number of sharply conflicting criteria. We have shown how the use of a multivariate method can effectively aid decision-making in the search for good solutions. In descriptive fashion with PROMETHEE and GALA. To use PROMETHEE, Then, alternatives are compared side-by-side for each criterion based on common preference functions. The performance of alternatives along all criteria must first be determined on an ordinal or cardinal scale. proposed method may have limitations as it requires more information obtaining information about life cycle options is not easy. Implement of The most suitable mining method for underground mining is "Koki Marine" in Serbia work. The corresponding problem consists of Five possible mining methods and eleven criteria for evaluation. The weights obtained from AHP are used in PROMETHEE calculations, and the alternative priorities are determined based on these weights. Calculations were shown to be important in this study, and the PROMETHEE method weighted the scale and variable ranking. All required information in PROMETHEE meanwhile, this method is easy implement and effective in dealing with incompatibility. This leads to inconsistent results. Although they are in F-PROMETHEE, the difference function involving real value and fuzzy number is meaningless, are more justified in their results differ from the standard PROMETHEE method, which leads to more or less a loss of information.

Energy Exploitation

Considering Therefore, Taiwan policy aims to achieve security goals. Policies for economic growth, energy exploitation and environment and conditions affecting the use of renewable energy in Taiwanese buildings is compiled to do identify influencing factors for solar energy use, Taiwan's National Sustainable Energy Policy plans follow Goals: Energy exploitation and environmental protection. Despite the current state of research, the high efficiency of renewable energy exploitation is practical for achieving economic growth, popularity and implies that Renewable energy should be supported by government regulations and subsidies. Based on this, this study builds on Reflect and explores the effective policy experiences of solar energy exploitation in developed countries in Taiwan through the history of applications of improved solar energy systems. Seven Key factors influencing the use and promotion of systems were identified. The seven main objective criteria are solar energy. Facing there are Provost Solutions for Urban Wind Energy Splat. analysis, their advantages and disadvantages are discussed. It provides a bibliographic research Potential for urban wind energy exploitation, the Therefore, HAWT installation is very advantageous. Energy coefficient under unidirectional wind conditions is similar to Harnessing Wind energy structures are ideal for flat terrain applications related to wind properties. creates A very reliable ranking for issues like rating. This approach is more realistic and alternative energy exploitation scenarios. This method is used for ranking. Evaluation of low temperature geothermal energy and alternative energy exploitation projects. For integrated voltage control, active network management schemes, etc. are integrated to investigate their effects on optimization. Power curtailment and power factor control for wind power. However, since wind capacity exceeds wind power, WTs allocation is maximum wind power, and exploitation is not allowed. Also, the short-circuit condition is calculated with a simple approach. MP-OF was applied to a 69-bus such assessment is implemented in seven different considerations Active management. From the perspective of water conservation co-benefit Rates In energy policy, the energy sector is the most beneficial. Energy water storage capacity technology new energy policies such as development industrial restructuring, development of energy technology; Technological development is proposed. New energy and water exploitation to achieve these goals. Results describing the In addition, water storage capacity equals energy technology development and new energy exploitation differences between the S3 and BAU-2 results. Correlations are calculated from a direct and cumulative perspective new energy exploitation, the prioritization of economic sectors is straightforward and consistent with energy technology development from an overall perspective. Analyzing the interaction of Contributing to China's energy and water needs and reducing CO₂ emissions, it can provide information. In geothermal energy exploitation, the fluids produced. Accessing such deep targets presents increased challenges. But not the permeability and/or Some of them are for hot situations. Various methods of exploiting deep various methods of harnessing deep geothermal energy have been proposed in the literature. It has been proposed in the geothermal energy literature, for heat availability situations. In this study we innovate the exploitation area where energy exploitation leads to land degradation, energy exploitation and development of undesirable production. First, based on the input-output perspective, the MI evaluation index is based on land degradation and environmental pollution from energy exploitation is also modeled as undesirable outputs. Traditional energy extraction industry aggregate Energy exploitation industry has its own peculiarities compared to other industries. Factor production measurement and impact factor structures struggle to fully reflect actual production changes in the industry. This evidence indicates that technological change leads to increased productivity by diversifying energy exploitation outputs in those regions. Finally, the tools for tidal energy exploitation. Energy exploitation We test whether there is a threshold for energy sector investment in MI and use a panel threshold model to estimate the impact of energy sector investment on MI. Undesirable releases include mine land encroached by development. In addition to traditional energy production, research on carbon dioxide emissions and energy exploitation and this evidence suggests that

technological change leads to increased productivity by diversifying energy exploitation outputs in those regions. Similarly, IBTC identifies whether technological change increases the productivity of each input relative to all other inputs. As a result, the information needed to develop intra-annual characterization matrices is currently only available for specific coastal areas, typically where a buoy operates for large periods that do not consider tidal energy exploitation. Current for tidal energy exploitation within the coastal zone, the most appropriate decisions are made to confirm the interest of the aid decision making tool within the year. For this reason, if the energy output of a wave farm is based on average annual figures, the estimate may result in ill-informed decision-making and threaten the economic viability of the farm. Using sophisticated heat transfer calculations, alternative Photovoltaic and Thermoelectric Systems are implicitly identified to increase the exploitation of solar energy. Designing the location of production wells new Format systems are proposed. Reservoir suffers from many practical problems such as mass flow loss and challenges. New Different from exchange system. Underground well sampling systems have already been proposed for underground closed-cycle heating It is proposed to utilize geothermal energy. EGS compared with European geological conditions. In this paper a were completely closed loop inside. Add the contribution Consider renewable energy and a mix of energy sources for augmentation. Examined the current state of energy exploitation. This study is renewable in Mauritius the island's energy. Among the various renewable energies studied, sugarcane combustion is the major contributor to power generation. However, as seen in this review, it has contributed very little to the island's total energy mix. Subsidies for solar water heaters, feed-in charges and several schemes have been introduced in the effort encourage the exploitation of wind energy, such as solar and net metering schemes. Countries with suitable coastlines can harness tidal energy the resulting water is associated with surface movement by air currents ocean. This type Energy is uniform throughout the world, not distributed is rarely used for energy exploitation because it is generally weak. The present study in this direction step through development aerodynamics and Identification and analysis of optimal isolated building form this building in an urban context. This study focuses on two aspects: As a result, the growing pressure over the years has meant the Low carbon and renewable development and implementation technology energy sources. In this framework, the EU became a global pioneer in promoting renewable exploitation. Energy towards improving security of supply. Competitiveness and environmental sustainability of renewable resources. The present investigation investigates suitable roof shapes for placing other type Small wind power generators. In tall the vertical profiles of velocity, turbulent kinetic energy and turbulence intensity are studied. Low turbulence intensity. Although they are rarely used, curved shapes offer a clear advantage for wind energy exploitation. A further step in this investigation should be an analysis of the wall-to-ceiling transition. Experimental results show that energy exploitation does not effectively improve TFP by implementing the climate policy, but it should be implemented. The influence of the atmospheric principle varies It is uneven in different regions and in Northeast and East. Time effect and model estimation results show Climate policy and technological innovation are highly conducive to promoting energy exploitation TFP, but the role of industrial labor division and the energy market price mechanism makes it difficult to promote energy exploitation. Western regions do not show a significant inverse relationship with energy exploitation TFP. Climate policies may be implemented in some regions. Their energy exploitation improves TFP and the allocation of energy resources, but due to the different functions of climate policy implementation in different regions, not all policy implementations can promote total factor productivity. It comes from shale formations that act as a source and reservoir. The development of shale gas and geothermal resources is a new trend in geo-energy exploitation. Shale gas is natural gas, Shale gas is a type of natural gas that comes from shale formations that act as a source and reservoir. These curves are estimated To curves are estimated as the A central design point is that exploiting wind energy is profitable relative to the plant's capacity. Second, the gradually decreasing trend of EMEROI better describes the non-renewability of fossil energy exploitation projects.

Results & discussion

It is given as the valuation parameter Criterion (A), the net present value of the investment (in Greek drachmas). Criterion (B), creation of new jobs. Criterion (C), energy is consumed. Resource exploitation refers to the amount of energy used. Criterion (D), risk index. The Evaluation of four proposed alternative exploitation schemes (scenarios).

TABLE 1. Data set for Sensitivity analysis of Scenarios

	Criterion A	Criterion B	Criterion C	Criterion D
Scenarios 1	1456	2547	69.7	4.86
Scenarios 2	1470	1023	68.5	63.4
Scenarios 3	2510	1234	65.2	32.4
Scenarios 4	1430	3520	45.6	23.4
Max	2510	3520	69.7	63.4
Min	1430	1023	45.6	4.86
max-Min	1080	2497	24.1	58.54
	1080	2497	24.1	58.54

Table 1 shows the Criterion A, Criterion B, Criterion C, Criterion D and shows the maximum and minimum output of each value.

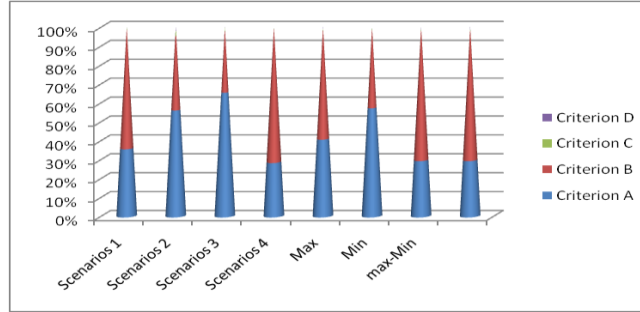


FIGURE1. Data Set

Figure 1 shows that the scene values in the graph sample Scenes 3 are the maximum values, Scenes 4 are the minimum values and Scenes 3, Scenes 4 minus the values are the maximum min values.

TABLE2. Normalized Matrix

Normalized Matrix				
	C1	C2	C3	C4
M1	0.024074	0.610332	1	0
M2	0.037037	0	0.950207	1
M3	1	0.084501	0.813278	0.470448
M4	0	1	0	0.316707

Table 2 shows the value of a given alternative by subtracting this maximum min and minimum, and then dividing with views, the value M 1 is obtained. Similarly, M2, M3 and M4 are detected.

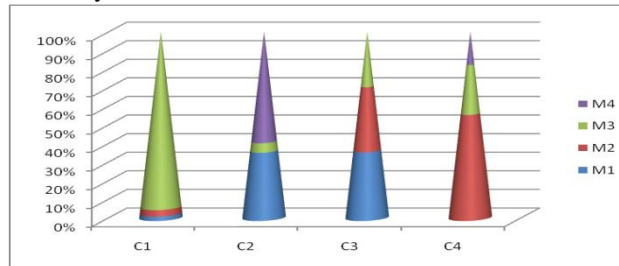


FIGURE2. Normalized Matrix

Table 2 shows a graphical representation of the normal matrix of the sensitivity analysis.

TABLE3. Pair wise Comparison

Pair wise Comparison				
	C1	C2	C3	C4
D12	-0.01296	0.610332	0.049793	-1
D13	-0.97593	0.525831	0.186722	-0.47045
D14	0.024074	-0.38967	1	-0.31671
D21	0.012963	-0.61033	-0.04979	1
D23	-0.96296	-0.0845	0.136929	0.529552
D24	0.037037	-1	0.950207	0.683293
D31	0.975926	-0.52583	-0.18672	0.470448
D32	0.962963	0.084501	-0.13693	-0.52955
D34	1	-0.9155	0.813278	0.153741
D41	-0.02407	0.389668	-1	0.316707
D42	-0.03704	1	-0.95021	-0.68329
D43	-1	0.915499	-0.81328	-0.15374

Table3 shown that the value of Pair wise Comparison calculated by using various methods of formulas.

TABLE 4. Preference Value

Preference Value					
	0.2336	0.1652	0.3355	0.1021	
D12	0	0.100827	0.016705	0	0.117532
D13	0	0.086867	0.062645	0	0.149513
D14	0.005624	0	0.3355	0	0.341124
D21	0.003028	0	0	0.1021	0.105128
D23	0	0	0.04594	0.054067	0.100007
D24	0.008652	0	0.318795	0.069764	0.397211
D31	0.227976	0	0	0.048033	0.276009
D32	0.224948	0.01396	0	0	0.238908
D34	0.2336	0	0.272855	0.015697	0.522152
D41	0	0.064373	0	0.032336	0.096709
D42	0	0.1652	0	0	0.1652
D43	0	0.15124	0	0	0.15124

Table 4 shows the preference values

TABLE 5. Sum of Preference Value

	M1	M2	M3	M4		
M1	0	0.117532	0.149513	0.341124	0.608169	0.202723
M2	0.105128	0	0.100007	0.397211	0.602346	0.200782
M3	0.276009	0.238908	0	0.522152	1.037069	0.34569
M4	0.096709	0.1652	0.15124	0	0.413149	0.137716
	0.477846	0.52164	0.40076	1.260486		
	0.159282	0.17388	0.133587	0.420162		

TABLE 6. Positive flow, Negative flow, Net flow

	positive flow	Negative Flow	Net flow	Rank
M1	0.081055	0.43654	-0.35549	4
M2	0.324681	0.211854	0.112827	2
M3	0.319344	0.282844	0.036499	3
M4	0.348069	0.14191	0.206159	1

Table 5 shows ranking for the Scenarios 1, Scenarios 2, Scenarios 3, Scenarios 4. In the above tabulation the Scenarios 4 is in the first rank and the second rank is Scenarios2. and the last rank is Scenarios 1.

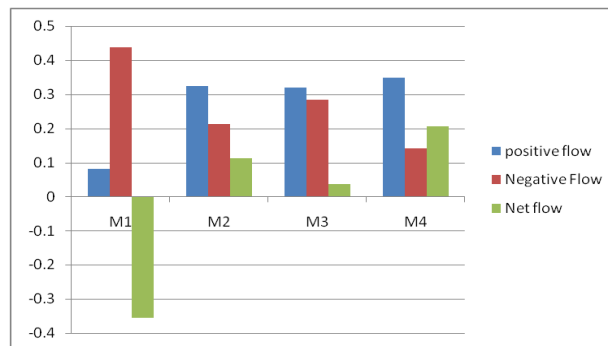


FIGURE3. Positive flow, Negative flow, Net flow

Figure 3 shows the flow, Negative flow, Net flow graph model

TABLE 7. Rank

	Rank
Scenarios 1	4
Scenarios 2	2
Scenarios 3	3
Scenarios 4	1

FIGURE4. Rank

In the table above views 4 are the first ranking and second ranking views are 2. And last rank shows 1.

Conclusion

Their main features are simplicity, clarity and certainty. The concept of common criteria is used create valuable relationships. We present Prometheus Advanced methods in multivariate analysis, a new class of methods. We can also conclude that PROMETHEE's contribution to Gaussian-like stability and 'soft' preference functions should be used more frequently. The second phase its selected in the first step for each industry, PROMETHEE decision making method was used. Based on this, these studies builds on Reflect and explore the effective policy experiences of solar energy exploitation in developed countries in Taiwan through the history of applications of improved solar energy systems. Seven Key factors influencing the use and promotion of systems were identified. The seven main objective criteria are solar energy. Facing there are Provost Solutions for Urban Wind Energy Splat. analysis, their advantages and disadvantages are discussed and the second rank is views2. And the last ranking shows 1. Scenarios 4 are at the top of the above table

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