Roadmap for GHG mitigation in Urban Planning

: Climate Change Impact Assessment



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- The policy plan and development project that emit large amount of greenhouse gases should conduct Climate change impact assessment according to Article 23 of Basic Act on Carbon Neutrality and Green Growth
- The climate change impact assessment scheme enacted in 2022 and now applied to 10 sectors.

Energy development, ② Industrial complex development, ③ Urban development,
Water resource development, ⑤ Port construction, ⑥ Mountain area development,
River development, ⑧ Road construction, ⑨ Airport construction,
Waste treatment facility installation





Climate Change Impact Assessment Procedure in Korea



EIASS (Environmental Impact Assessment Supporting System)
※ www.eiass.go.kr

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전체목록	험의기관 🗸						
전략환경영향평가	사업명, 사업지주소, 사업코	드, 평가대행자, 담당자 검색	검색	상세검색			
소규모환경영향평가		_					
환경영향평가	SEIA					더보기 十	
사후환경영향조사	사업코드	사업구분	사업명	접수일	완료일	진행현황	
사전환경성검토	YS20250120	도시관리계획	영암 군관리계획(용도지역:삼호간척지) 결	2025.04.09		C 1 1	
기후변화영향평가	YS20250119	폐기물처리시	광양시 친환경 자원순환단지 설치사업	2025.04.08	• Dra	Status	
	ND20250104	도시관리계획	거제 도시관리계획(용도지역, 관리지역 세	2025.04.03	• Fin	al Ver	
	ND20250103	도로기본계획	김해시 농어촌도로 기본계획(변경)	2025.04.03	• Re	vision	
	YS20250109	도시관리계획	2035년 순천 도시관리계획(재정비)	2025.03.28	• Co	mpletio	n of
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	HG20250001	폐기물처리시	어면-한산 일반산업단지 폐기물처리시설(2025.03.25		초안(진행)	
	ME2025A009	도시의 개발	광주산정 공공주택지구 조성사업	2025.03.13		초안(진행)	
	ME2025C008	에너지개발	송산빛그린 건설사업	2025.03.10		초안(진행)	

 Climate Change Impact Assessment Report





Ministry of Environment

Criteria for Climate change impact assessment for GHG Reduction

"Consistency with related plans and the Suitability of greenhouse gas reduction

strategies are key assessment factors for Climate Change Impact Assessment."

Consistency

Is there consistency with related plans for GHG reduction?

 Is this plan consistent with International/National/Regional target & Strategy for GHG reduction or carbon neutrality?



Suitability

GHG reduction strategies are appropriate?

- What changes are estimated from this plan?
- How much GHG will be emitted?
- What kind of measures are applied?
- What is target for GHG reduction?





Consistency

Is it consistent with related plans for GHG reduction? **(Example)** Review result of the consistency Between This Plan and Related Plans

After examining this project plan in connection with related plans, it has been found that detailed plans by sector, such as setting reduction targets, transitioning to renewable energy, and promoting green buildings, have been established and are being implemented to achieve carbon neutrality and reduce greenhouse gas emissions.

This plan includes measures to strengthen environmental conservation, such as rationally reorganizing the current land use in the target area, in order to minimize the impacts of climate change caused by uncontrolled development.

In the implementation of future individual development projects in the target area, the plan intends to review applicable methods through cooperation with relevant departments to ensure the feasibility of the project contents and align with the reduction goals and strategies of the "1st City Carbon Neutral Green Growth Basic Plan (2024–2033)." Therefore, the plan complies with local government ordinances and various related plans.





① What are the changes caused by implementation of the plan?





Suitability

Ministry of Environment



1) What are the changes caused by implementation of the plan?

Sector	Before Plan (present state)	During Construction	After Plan (in the future)	
Transportation	Area of Road : 74,000 m ²	Construction vehicle (Truck, Excavator, Bulldozer)	Daily traffic volume : 300,000/day	
Public/ Commercial	Public facilities : 75	Not occurring	1,000,000 m ²	
Industrial	Not occurring	Not occurring	Not occurring	
Residential	Detached house : 120	Construction site office	Apartment (Number of Household : 12,000)	
Agricultural	Field for crop : 300,000m ² Rice paddy : 500,000m ²	Not occurring	Not occurring	
Waste	residential solid waste generation, wastewater production	waste generation from construction site office, Construction and Demolition waste	residential solid waste generation, wastewater production	
LULUCF	Forested land : 400,000 m ²	Loss of Forested land, Some trees are remains	Park, Tree planting (total area : 400,000m²)	



Suitability



② How much Greenhouse gas will be emitted?

Sector	Before Plan (present state)	During Construction	After Plan (in the future)	
Transportation	9,000	7,000	20,000	
Public/ Commercial	10,000	N.O.	300,000	
Industrial	4,000	N.O.	N.O.	
Residential	300	150	120,000	
Agricultural	1,000	N.O.	N.O.	
Waste	10	200	1,000	
LULUCF	(400)	200	(200)	
Net Emission	14,910	550	420,800	



Suitability



Suitability

③ What kind of measures are applied to reduce GHG?

GHG reduction measures (Construction Stage)

- 1. Avoid the use of outdated equipment, vehicles, and ensure regular maintenance
- 2. Use low-carbon construction machinery
- 3. Prohibit idling of deployed equipment.
- 4. Apply construction methods with minimal environmental impact.
- 5. Use low-carbon materials (e.g., eco-friendly concrete, cement-free bricks.
- 6. Use environmentally certified products.
- 7. Recycle construction materials and waste.
- 8. Transplant damaged trees.



GHG reduction measures (Operation Stage)

- 1. Use of Renewable
- 2. Use of High-Efficiency Energy
- 3. Zero Energy Building Certification
- 4. Application of LID (Low Impact Development) Techniques
- 5. Creation of Carbon Offset Forests



- ④ What is the GHG reduction target?
- Reduction targets should be presented as both short-term(near future) and long-term(distant future) goals.
- The near future refers to 2030 or within 20 years from the present, the distant future refers to 2050 or beyond 30 years from the present

Suitability

Sector	Before Plan	During	After Plan	Emission Estimation (Reduction rate)			
	(present state) Construction		(in the future)	'30	'40	'50	
Transportation	9,000	7,000	20,000	15,000 (25%)	12,000 (40%)	2,000 (90%)	
Public/ Commercial	10,000	N.O.	300,000	170,000 (43%)	170,000 (43%)	170,000 (43%)	
Industrial	4,000	N.O.	N.O.	N.O.	N.O.	N.O.	
Residential	300	150	120,000	60,000 (50%)	60,000 (50%)	60,000 (50%)	
Agricultural	1,000	N.O.	N.O.	N.O.	N.O.	N.O.	
Waste	10	200	1,000	700 (30%)	500 (50%)	400 (60%)	
LULUCF	-400	-200	-200	-200	-200	-200	
Net Emission	23,910	7,150	440,800	245,500 (44%)	242,300 (45%)	232,200 (47%)	





Roadmap for GHG mitigation with Climate Change Impact Assessment







Thank You for listening

Any Question? Feel free to ask!

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