

공무국의 여행계획서

1. 여행개요

여행목적	28 th Korea-Thailand Conference on Environmental Engineering 참석			
여행동기 및 배경	<ul style="list-style-type: none"> • 국제 정기학회인 한국-태국 환경공학학회 참석을 하고자 함 • 대전 교통정책에 따른 온실가스 및 미세먼지 저감에 관한 발표를 하고 양국에서 진행하는 온실가스 감축과 관련된 연구내용 정보를 파악하고자 함 • 이번 출장을 통해서 얻게 되는 연구 내용과 자료들을 통하여 국내 탄소중립 정책 모델 개발에 참고하고자 함 			
여행기간	2023. 2. 21. ~ 2. 26. (4박 6일)			
여행지	태국(푸켓)			
여행경비 부담기관	자부담			
여행자(계: 1명)				
소속 및 직위(직급)	성 명	성 별	연 령	여행경비
탄소중립지원센터장	문충만	남	40	-
총 계				-

※ 개인별 업무 수행

직위 (직급)	성 명	업 무 수 행 내 용
센터장	문충만	온실가스 감축과 관련된 연구 발표 및 자료 수집 - 대전시 교통정책에 따른 온실가스 감축 사례 발표 - 온실가스 감축 기술 및 연구동향 파악

2. 여행일정: 문충만(4박 6일)

월일 (요일)	시 간	도시	업무수행 내용	비 고 (접촉예정인물, 직책포함)
2.21(화)	09:15-13:15 18:55-20:25	인천공항 방콕 푸켓	<ul style="list-style-type: none"> • 인천국제공항(ICN) ⇨ 수원나품공항(BKK)/ KE657 • 수원나품공항(BKK) ⇨ 푸켓국제공항(TLS)/ WE211 • 푸켓국제공항(TLS) ⇨ 숙소 	
2.22(수)	전 일	푸켓	<ul style="list-style-type: none"> • 학회 참석 및 발표 	
2.23(목)	전 일	푸켓		
2.24(금)	전 일	푸켓		
2.25(토) -2.26(일)	13:40-15:10 21:05-04:20	푸켓 방콕 인천공항	<ul style="list-style-type: none"> • 푸켓국제공항(TLS) ⇨ 수원나품공항(BKK)/ WE208 • 수원나품공항(BKK) ⇨ 인천국제공항(ICN)/ KE658 • 인천국제공항(ICN) ⇨ 대전이동 	

※ 단, 본 일정은 현지 일정 및 접촉대상자 사정에 따라 일부 변동될 수 있음

3. 여행경비 : 해당사항 없음(자부담)

4. 여행효과

- 국내 및 국제 온실가스 감축 관련 기술 동향 파악
- 지자체 적용 가능 온실가스 감축 사업 발굴



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January 16, 2023

Dear Chungman Moon,

Thank you for your interest in joining and presenting your valuable research work at 28th Thailand-Korea Conference on Environmental Engineering.

In my capacity of the chairman, I would like to invite you and your colleagues to join the 28th Thailand-Korea Conference on Environmental Engineering which will be held at Graceland Khaolak Beach Resort, Phang Nga, Thailand during February 21-24, 2023. The activity includes research work presentation, international collaboration discussion and conference tour.

I am truly appreciated your participation and looking forward to seeing you in Thailand.

Yours sincerely,

(Associate Professor Dr. Khemarath Osathaphan)

Chairperson

Department of Environmental Engineering

Faculty of Engineering

Chulalongkorn University

Changes in Greenhouse Gas Emissions of Arterial Roads in Daejeon depending on Vehicle Speed

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Abstract

Ground vehicles/automobiles, which account for the largest proportion of the cause of air pollution in the transport sector, emit a significant amount of particulate matter. In particular, fine dust generated by automobiles can be divided into particulate matter emitted by automobiles and their tire wear, respectively. In Korea, the speed on arterial roads was reduced from 60~70km/h to 50km/h to reduce fatal accidents. These policies have reduced many fatal accidents. This speed reduction policy is expected to reduce fine dust caused by automobile tire wear. However, it is worth examining how speed reduction affects greenhouse gas emissions. Consequently, this study used traffic volume and average speed data on Munhwa Road and Daejong Road, two arterial roads in Daejeon, South Korea, to compare greenhouse gas emissions and particulate matter emissions by comparing road conditions when the speed was high in 2021 and when the speed was reduced in 2022. When the average speed of Munhwa-ro and Daejong-ro decreased by 3.4 and 5.4 km/h, carbon dioxide emissions increased by 7.41 and 13.89 g/km, respectively. On the other hand, the sum of the particulate matter emission from automobiles of these two arterial roads decreased by 202.579 and 999.13 tones, respectively. Many transportation policies have been focused on congestion alleviation, but recently they are being used together as policies to reduce greenhouse gas emissions in the transportation sector. However, it is necessary to objectively prove whether these policies are positive or negative for the environment sector through research. Along with this analysis, speed reduction policies can have a positive effect on reducing particulate matter, but they can be negative in reducing greenhouse gases, so it is necessary to think about where to place the main points of transportation measures.

Keywords: Vehicle speed, particulate matter emission, Greenhous gas reduction