

**ENVIRONMENTAL IMPACT REPORT FOR THE TRANSMISSION PIPELINE
M2/1 ON THE SECTION TROJANE – VODICE
NON - TECHNICAL SUMMARY OF THE REPORT**

The Investor, Geoplin Plinovodi d.o.o., as the provider of public service transmission of natural gas, plans to increase the flow capacity of the existing pipeline M2, DN400, 50 bar, on the section from the distribution station (RP) Trojane to the metering station (MRP) Vodice. As the throughput capacity of the mentioned pipeline M2 is no longer sufficient to cover the increased demands for natural gas in Slovenia, the Investor has decided to build a new parallel pipeline M2/1, with the capacity of DN800 and 70 bar, in total length of app34 km.

The company Geoplin Plinovodi d.o.o. is the system operator of the natural gas transmission system in Slovenia in accordance with the provisions of the European Gas Directive and the Slovenian Energy Law. Company headquarters are located at Cesta Ljubljanske Brigade 11, 1000 Ljubljana. Part of the company includes a maintenance center in Maribor, at Bohova 19b, 2311 Hoče. The company provides secure, reliable, economical and environmentally safe transportation of natural gas through the gas transmission network in the Republic of Slovenia and is responsible for planning, development and maintenance of the network. It owns the entire gas transmission network on the territory of Slovenia, which is an important part of international transmission routes for natural gas. The sole owner of the company is Geoplin d.o.o. Ljubljana. The company's main registered activity is H49.500 - Pipeline transportation, date of entry 13/05/2004.

The planned parallel pipeline M2/1 is located in the central part of Slovenia and passes through the hilly territory of the western Posavsko hill range and the prevailing flat area of Sava plain including Kamniška Bistrica plain and Vodice-Skaručno plain. Pipeline M2/1 will run through the same corridor as the existing pipeline M2, DN400, 50 bar. It will cross the territory of the following six municipalities, from east to west: Lukovica, Domžale, Kamnik, Mengeš, Komenda and Vodice.

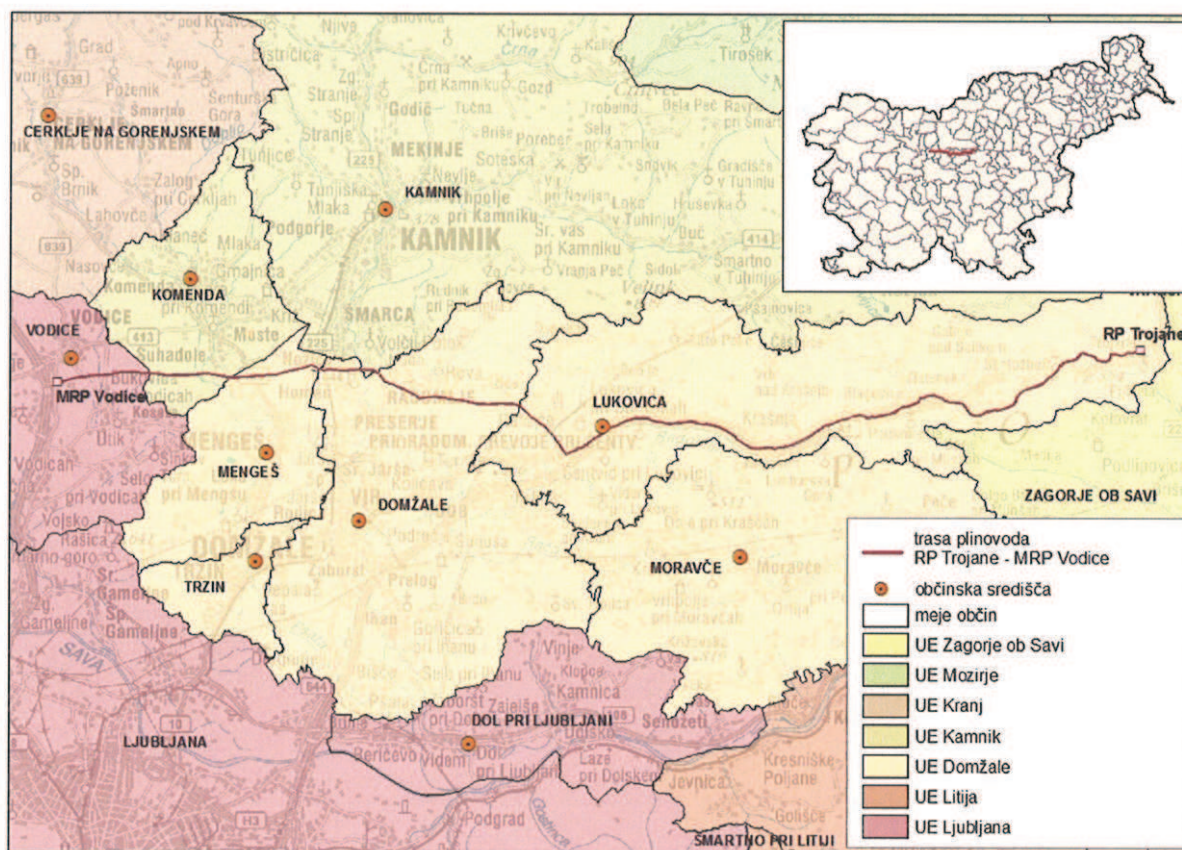


Image 36: Location of the operation in the wider area

The planned pipeline reaches into protected natural areas (Natura 2000), ecologically important areas, areas of natural values and areas of cultural heritage. In the area of the Kamniška Bistrica valley and Vodice plain, it crosses protected water source areas. Its route also crosses several rivers, and thus areas of coastal and aquatic lands. Along the area of the planned operation there are areas of declared and proposed protective forest. For all those areas, there are prescribed specific legal regimes. The pipeline runs through periodically flooded areas, mainly of medium and low flood risk. The pipeline route runs through areas where there are various sources of noise from road and rail to industrial and agricultural activities. The only source of vibration is road freight transport in the areas where the pipeline route crosses busy roads. There are no illegal landfills in the vicinity of the route. The soil along the pipeline route is not excessively contaminated by pollutants. Assessment of air quality shows exceeded thresholds for particulate matters and ozone, as is the case on the entire territory of Slovenia. In particular Kamniška Bistrica river is a fairly polluted river, but the quality of water in the river is improving. The largest share of the land crossed by the operating zone of the planned pipeline route M2/1 consists of agricultural land.

The planned gas pipeline facility will comprise an additional pipe of diameter DN 800 mm with a working pressure of 70 bars, placed parallel to the existing pipeline M2 (at a distance of 3,6 - 8 m). In some sections, the new pipeline will significantly further from the existing pipeline (up to 40 m) due to availability of space, configuration of the terrain, the geological conditions, residential areas and infrastructure considerations. Some of above-ground structures are foreseen in the scope of the construction of the pipeline, namely modification and upgrading of RP Trojane and MRP Vodice and three block stations or block valves. Works include cathodic protection of pipelines, connection of the distribution station Trojane and the metering station Vodice to the pipeline with all required modifications, as well as laying of optical cable for data transfer along the pipeline. It is foreseen that the pipeline will cross many existing infrastructural facilities (motorways, regional, local and uncategorized roads, waterworks, sewers, electricity lines, telecommunications lines). The planned pipeline M2/1 will cross the existing pipeline M2 on several places as well. Due to the capacity of the pipeline, an Environmental Impact Report is required for the works.

Construction work will be undertaken by sections. Works will mainly comprise the execution of the pipeline trench, preparation of the operating zone, filling in the pipeline trench, final arrangement of the operating zone, including protection of the whole pipeline and recreation of the original state of land, installation of cable ducts for optical cable along the pipeline, and construction of the pipeline block stations. Some existing facilities are planned to be removed (removal of facilities is not covered by this Environmental Impact Report).

Pipeline M2/1 Trojane-Vodice is, wherever possible, routed parallel to the existing pipeline M2, as is, inter alia, required by Slovenian spatial planning legislation. However, before the final decision of the route, the alternative and variant routes of the pipeline were also considered (at the National Spatial Plan stage). A study examined the functional and technological execution, including evaluation of investment and the spatial and environmental acceptability of the intervention. The findings were that from the functional and technological aspect, management of the existing pipeline route is more acceptable than possible new route. From the spatial and environmental perspective, the proposed route is acceptable primarily because it runs through the corridor of the existing pipeline. It was found that definition of new variants of the route would not provide any benefits.

Based on the known data of the operation and on the evaluation of the existing environmental situation in the area, in the Environmental impact report the acceptability of the proposed intervention in terms of actual and potential burden on the environment and any other foreseeable consequences for the environment as a whole and its individual components including the impact on human health and human immovable property were analyzed and assessed. In doing so, all relevant laws, acts, regulations and EU reference documents that define standards and norms, rules of conduct and best available techniques were taken into account. Assuming full implementation of all planned protective measures, as well as additional protective measures recommended in the report, it was found that:

- the operation will not result in a deterioration of air quality in the area. The impact of local emissions of dust and pollutants from machinery and transport vehicles during the construction is temporary and will be present only during the active construction on site.

During the operation of the pipeline, the impact on the air can arise only in case of damage to the pipeline and uncontrolled release of gas, which is highly unlikely;

- during normal operation, the new pipeline will have an indirect positive impact on air quality due to the increased potential for extension of the gas pipeline network to individual users in the wider area, and thus use of natural gas for heating and industrial purposes which will result in replacement of existing energy sources with natural gas;
- the works might affect the quality of the soil only during the construction of the pipeline due to the removal of soil layers and the possibility of surface erosion. During the operation of the pipeline, the use of land for agricultural activities will be limited;
- given the nature of the operation, an impact on the hydrological regime of rivers can be expected only during the construction phase, when surface cover will be removed in some places (coastal tree and shrub vegetation); provided that the prescribed guidelines and measures are followed during the construction of the pipeline, only a small impact on flood protection is expected;
- negative impact on groundwater is not expected during the construction. Due to the works the water sources are not endangered. The construction and operation of the pipeline are not expected to affect quantities of groundwater. No pollution of ground water or water sources is expected during operation of the pipeline;
- during the construction, noise from construction machinery and transport is expected; during the operation, the three planned shut-off valves will cause occasional noise in case of emergencies. The MRT Vodice will continue to cause continuous noise;
- due to the geological structure along the pipeline route, the operation will not be a significant source of vibration;
- the operation will not be a significant source of light pollution;
- the operation will generate mainly construction waste, which will be largely used during the construction of the pipeline (excavation) or will be delivered to the collector/processor of the construction waste. Hazardous construction waste is not expected during the construction. During operation of the pipeline, waste will be generated as biomass, as a result of cleaning the route or periodic removal of undergrowth;
- the pipeline will require a relatively limited intervention in the forest. Clearing of the forest will be made on a smaller scale, as it is mostly just the extension of the existing cuts, which were made for the existing pipeline M2. During the operation, the cuts in width of 10 m will have to be maintained.
- there is a large number of archaeological sites in vicinity of the route, thus there is some likelihood that the construction could lead to damage or even destruction of archaeological heritage; the impact of the pipeline on cultural heritage during construction, is therefore assessed as moderate, as is the impact on the landscape;
- the operation will affect wild plants and animals and their habitats in the area and in protected natural areas. Construction of the pipeline will have a major impact on certain habitat types that have high conservation significance due to their direct destruction. Due to the ecological requirements of protected species of fish and crustaceans, regulation of watercourses where the pipeline crosses them is a major negative impact, since in addition to consolidation of the watercourse bed, it also entails lightening of the watercourses due

to clearance of forestation along the route. Despite implementation of mitigating measures, construction of the pipeline will have a major impact on butterflies and beetles. During the construction works, habitats of endangered and protected species of butterflies in the pipeline's operating zone will be directly destroyed where the vegetation cover is removed or handling surfaces of the pipeline are located. The most critical area is where the route runs close to the Rova clay pit, and the area of Zadnje Struge, where *Melitaea diamina*, *Maculinea alcon* and *Lycaena dispar* are present. From the perspective of beetles, the negative impact will consist primarily of the removal of large trees with hollows, which are habitats for many saproxylic species of conservation importance. The negative impact may also be formed with the removal of large oak trees, especially in areas of known presence of *Cerambyx cerdo* or *Lucanus cervus*. Construction of the pipeline will interfere with habitats of bats in forest areas. During construction, a large impact on the Natura 2000 area *Zadnje struge pri Suhadolah* due to direct destruction of qualifying habitat type (alder woods). During operation, impacts of the pipeline will be smaller. The major impact during construction of the pipeline is expected due to cumulative impacts on aquatic animals (fish, crabs, dragonflies); the impact of the protective goals of other nature conservation areas will be moderate or small. Removal or abandonment of the pipeline will have no impact on nature.

- the operation will not have significant effects on human health or the human immovable property in the area, but is expected to have some impact on the route itself and in the operation and easement zones;
- the operation will have no impact on the environment of neighboring countries;
- during and after abandonment and removal of the pipeline, the works will have a slight impact on the quantity of waste and noise.

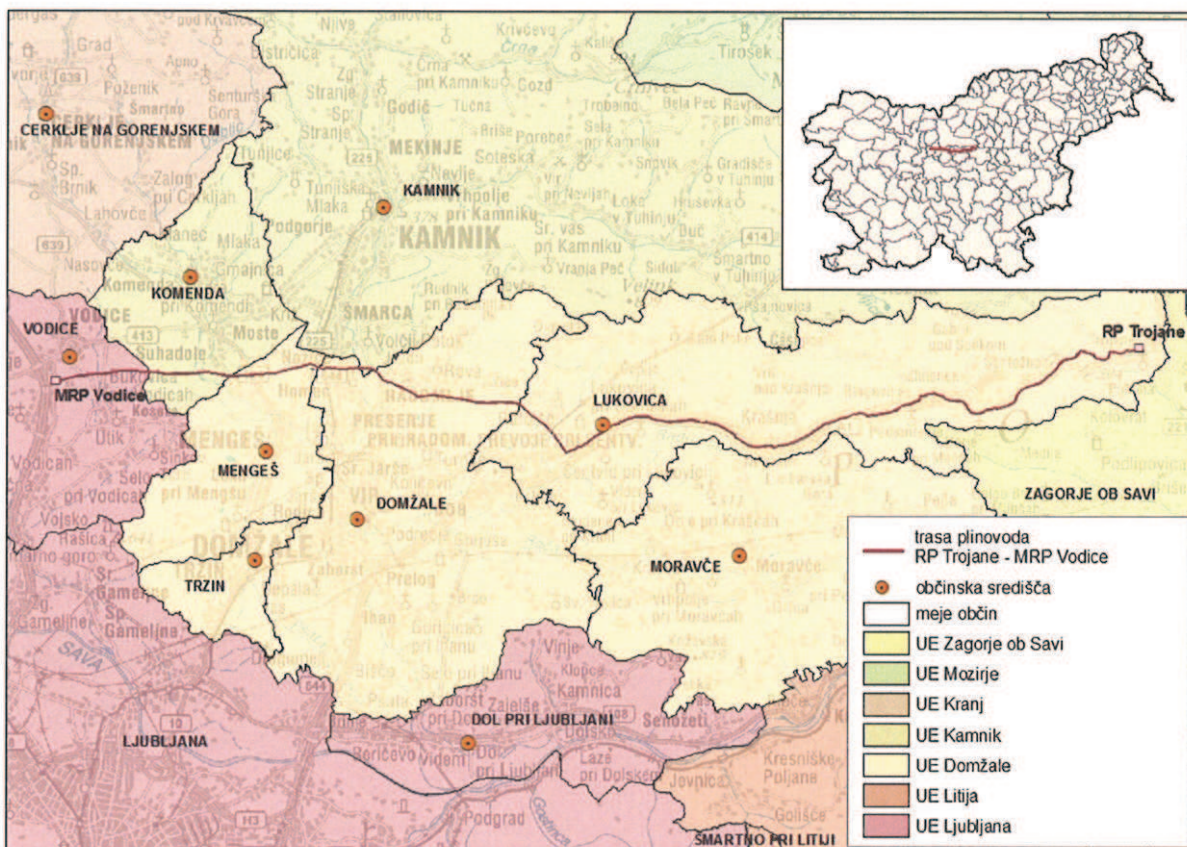
POROČILO O VPLIVIH NA OKOLJE ZA PRENOSNI PLINOVOD M2/1 NA ODSEKU TROJANE - VODICE

POLJUDNI POVZETEK POROČILA

Investitor Geoplin plinovodi d.o.o., kot izvajalec gospodarske javne službe prenosa zemeljskega plina, načrtuje povečanje pretočnih zmogljivosti obstoječega plinovoda M2, DN400, 50 bar, na odseku od razdelilne postaje (RP) Trojane do merilnoregulacijske postaje (MRP) Vodice. Ker pretočne zmogljivosti omenjega plinovoda M2 ne zadostujejo več pokritju povečanih potreb po zemeljskem plinu v Sloveniji, se je investitor odločil za izgradnjo novega vzporednega plinovoda M2/1, z zmogljivostjo DN800 in 70 bar, v dolžini okrog 34 km.

Družba Geoplin plinovodi d.o.o. je v skladu z določbami evropske plinske direktive in slovenskega energetskega zakona sistemski operater prenosnega omrežja zemeljskega plina. Sedež družbe je na naslovu Cesta Ljubljanske brigade 11, 1000 Ljubljana, del družbe je Vzdrževalni center Maribor, Bohova 19b, 2311 Hoče. Družba zagotavlja varen, zanesljiv, gospodaren in okolju neškodljiv prenos zemeljskega plina po prenosnem plinovodnem omrežju v Republiki Sloveniji ter skrbi za načrtovanje, razvoj in vzdrževanje omrežja. V njeni lasti je celotno prenosno plinovodno omrežje na slovenskem ozemlju, ki je tudi pomemben del mednarodnih prenosnih poti za zemeljski plin. Edini lastnik družbe je družba Geoplin d.o.o. Ljubljana. Glavna registrirana dejavnost družbe je H49.500 - cevovodni transport, datum vpisa 13.5.2004.

Lokacija načrtovanega vzporednega plinovoda M2/1 se nahaja v osrednjem delu Slovenije in poteka po hribovitem ozemlju zahodnega Posavskega hribovja in pretežno ravnem svetu Savske ravni z Kamniškobistriškim poljem in Vodiško-Skaručanskim poljem. Plinovod M2/1 bo potekal v istem koridorju kot obstoječi plinovod M2, DN400, 50 bar. In sicer bo potekal po ozemlju šestih občin, ki si od vzhoda proti zahodu sledijo: Lukovica, Domžale, Kamnik, Mengeš, Komenda in Vodice.



Slika 1: Prikaz lokacije posega v širšem prostoru

Načrtovani plinovod sega na varovana območja narave (Natura 2000), ekološko pomembna območja in območja naravnih vrednot, ter območja varovanja kulturne dediščine. Na območju Kamniškobistriške doline in Vodiškega polja prečka območja varstva vodnih virov, prav tako na svoji trasi prečka več vodotokov in s tem območja priobalnih in vodnih zemljišč. Vzdušje območja predvidenega posega se nahajajo območja razglašanih in predlaganih varovalnih gozdov. Za vsa navedena območja so predpisani posebni pravni režimi. Plinovod poteka po območjih, ki so občasno poplavljeni, poplavna območja pa spadajo v glavnem v razred srednje in majhne poplavne nevarnosti. Trasa plinovoda bo potekala po območjih, na katerih se pojavljajo različni viri hrupa, od cestnega in železniškega prometa do industrijskih, obrtnih in kmetijskih dejavnosti. Vir vibracij na območjih prečkanj trase plinovoda z bolj obremenjenimi prometnicami je le cestni tovorni promet, v bližini trase ni divjih odlagalšč odpadkov. Tla v bližini trase plinovoda niso prekomerno onesnažena z onesnaževali. Ocena kvalitete zraka kaže na presežene vrednosti za delce in ozon, kot na območju celotne Slovenije. Zlasti Kamniška Bistrica je še dokaj obremenjen vodotok, vendar pa se kakovost voda v reki izboljšuje. Med zemljišči, ki jih prečka delovni pas trase predvidenega plinovoda M2/1, prevladujejo kmetijska zemljišča.

Sestavne dele načrtovanega plinovodnega objekta predstavlja dodatna plinovodna cev premera DN 800 mm z delovnim tlakom 70 barov, položena vzporedno ob obstoječo cev plinovoda M2 (v oddaljenosti praviloma 3,6 – 8 m). Novi plinovod se bo na delih trase z upoštevanjem prostorskih možnosti, konfiguracije terena, geoloških razmer, poselitve ter infrastrukturnih objektov in naprav ter odvisno od njih občutneje odmikal od obstoječega plinovoda (do 40 m). V sklopu izgradnje plinovoda so predvideni tudi nekateri nadzemni objekti in sicer predelava in dograditev RP Trojane, MRP Vodice ter tri zaporne postaje oz. blok ventili. Poseg vključuje tudi katodno zaščito plinovoda, priključitev plinovoda na RP Trojane in MRP Vodice z vsemi potrebnimi predelavami ter položitev optičnega kabla za prenos podatkov ob plinovodu. Na trasi plinovoda je predvidenih večje število križanj z obstoječimi infrastrukturnimi objekti (avtocesti, regionalne, lokalne in nekategorizirane ceste, vodovodi,

kanalizacije, elektroenergetski vodi, telekomunikacijski vodi), na nekaj mestih bo predvideni plinovod M2/1 prečkal tudi obstoječi plinovod M2. Iz zmogljivosti posega izhaja predpisana obvezna izdelava poročila o vplivov na okolje.

Gradbena dela bodo potekala po odsekih, obsegala pa bodo predvsem izvedbo plinovodnega jarka, pripravo delovnega pasu, zasip plinovodne cevi, končno ureditev delovnega pasu vključno z zaščito plinovoda v celoti in vzpostavitev prvotnega stanja površin, izdelavo kabelske kanalizacije za informacijski optični kabel ob plinovodni cevi, in gradbeni del zapornih postaj na plinovodu. Predvidena je odstranitev nekaterih obstoječih objektov (odstranitev objektov ni predmet tega poročila o vplivih na okolje).

Trasa plinovoda M2/1 Trojane - Vodice je povsod tam, kjer je to mogoče, umeščena v prostor vzporedno z obstoječim plinovodom M2, kar med drugim nalaga tudi Prostorski red Slovenije. Kljub temu so bile pred končno izbiro trase plinovoda obravnavane v tem poročilu o vplivih na okolje preučene alternativne možnosti oz. variantne rešitve poteka plinovoda (v fazi DLN). V izdelani študiji je bila izvedena preveritev funkcionalno tehnološke izvedbe, vključno z oceno investicije ter prostorska in okoljska sprejemljivost posega. Ugotovitve so bile, da je s funkcionalno tehnološkega vidika vodenje trase ob obstoječem plinovodu bolj sprejemljivo od morebitne nove trase. S prostorskega in okoljskega vidika pa je predlagana trasa sprejemljiva predvsem zato, ker poteka v koridorju obstoječega plinovoda. Ugotovljeno je bilo, da opredelitev novih variant trase ni smiselna.

Na osnovi znanih podatkov o posegu in ocene obstoječega stanja okolja na obravnavanem območju, smo v poročilu o vplivih na okolje analizirali in ocenili sprejemljivost nameravanega posega z vidika vseh dejanskih in možnih obremenitev okolja in glede vseh predvidljivih posledic za okolje kot celoto in za njegove posamezne sestavine, vključno z vplivom na zdravje človeka in človekovo nepremično premoženje. Pri tem smo upoštevali vse relevantne zakone in podzakonske akte ter referenčne dokumente EU, ki določajo standarde in normative, pravila ravnanja in najboljše razpoložljive tehnike. Pod predpostavko, da bodo v celoti upoštevani vsi predvideni in v poročilu dodatno predlagani zaščitni ukrepi, je bilo ugotovljeno, da:

- poseg ne bo povzročil poslabšanja kvalitete zraka na obravnavanem območju. Vpliv lokalnega prašenja in emisij škodljivih snovi iz delovnih strojev in transportnih vozil v času gradbenih del je začasen in prisoten le v času aktivnih del na gradbišču, v času obratovanja plinovoda pa bi vplivi na zrak lahko nastali le v primeru poškodb plinovoda in nenadzorovanega izpuščanja plina iz plinovoda, kar je zelo malo verjetno;
- poseg bo v času normalnega obratovanja novega plinovoda na kakovost zraka vplival posredno pozitivno, in sicer zaradi večje možnosti izgradnje plinovodnega omrežja za individualne uporabnike na širšem območju in uporabo zemeljskega plina za ogrevanje in v tehnološke namene, kar bo pomenilo zamenjavo obstoječih energentov z zemeljskim plinom;
- poseg bo lahko vplival na kvalitete tal le v času gradnje plinovoda zaradi odstranitve sloja prsti in možnosti površinske erozije, v času obratovanja plinovoda pa bo omejena uporaba tal za potrebe kmetijske dejavnosti;
- glede na naravo posega lahko pričakujemo vpliv na vodni režim površinskih vodotokov le med gradnjo, takrat bo mestoma prišlo tudi do odstranitve površinskega pokrova (obvodna drevesna in grmovna vegetacija), ob upoštevanju določenih navodil in ukrepov v času izvedbe plinovoda je v času gradnje plinovoda pričakovati le majhen vpliv na poplavno varnost;
- v času gradnje ni pričakovati negativnih vplivov na podzemne vode, zaradi predvidenega posega ne bodo ogroženi viri pitne vode. Izgradnja in obratovanje plinovoda ne bosta vplivala na količinsko stanje podzemne vode. Prav tako ni pričakovati onesnaženja podtalnice in vodnih virov v času obratovanja plinovoda;
- v času gradnje je pričakovati predvsem hrup zaradi gradbene mehanizacije in transporta, v času obratovanja bodo lahko občasen hrup v primeru izrednih dogodkov povzročali trije predvideni zaporni ventili, stalen hrup bo tudi v prihodnje povzročala MRP Vodice;
- poseg, zaradi geološke sestave na trasi plinovoda, ne bo pomemben vir vibracij;
- poseg ne bo pomemben vir svetlobnega onesnaževanja;

- v času gradnje plinovoda bodo nastali predvsem gradbeni odpadki, ki se bodo v večji meri porabili pri vgradnji plinovoda (zemeljski izkop) oz. se oddali zbiralcu/predelovalcu gradbenih odpadkov. Pri izvedbi predmetnega plinovoda ni pričakovati nevarnih gradbenih odpadkov. V času obratovanja se bo kot odpadke pojavljali predvsem zeleni odrez (biomasa), kot posledica čiščenja trase oz. periodičnega odstranjevanja podrasti;
- plinovod bo terjal relativno omejen poseg v gozd. Krčitve gozda bodo izvedene v manjšem obsegu, saj gre večinoma le za razširitev že obstoječih posek, ki so bile izvedene za obstoječi plinovod M2. V času obratovanjem pa bo vzdolž trase potrebno vzdrževati gozdne poseke širine 10 m;
- ker je v bližini trase večje število arheoloških najdišč, obstaja določena verjetnost, da bi med gradnjo lahko prišlo do poškodb ali celo uničenja arheološke dediščine, vpliv plinovoda na kulturno dediščino je zato v času gradnje ocenjen kot zmeren, enako je ocenjen tudi vpliv na krajino;
- poseg bo vplival na prosto živeče rastline in živali ter njihove življenjske prostore v okolici in na varovana območja narave. Gradnja plinovoda bo imela velik vpliv na nekatere habitatne tipe, ki imajo velik naravovarstven pomen, zaradi neposrednega uničenja. Zaradi ekoloških zahtev zavarovanih vrst rib in rakov predstavlja velik negativni vpliv ureditev vodotokov na mestih prečkanja plinovoda, kjer poleg utrditev v strugi negativne vplive predstavlja tudi presvetlitev struge zaradi poseke plinovoda. Kljub izvedbi omilitvenih ukrepov bo velik vpliv izgradnje plinovoda metulje in hrošče. Med gradnjo bodo neposredno uničeni deli habitatov ogroženih in zavarovanih vrst metuljev v delovnem pasu plinovoda, kjer bo odstranjen vegetacijski pokrov ali pa bodo manipulativne površine gradbišča. Najbolj kritično je območje, kjer trasa poteka v bližini glinokopa Rova in na območju Zadnjih Strug, kjer so prisotni močvirski pisanček, sviščev mravljiščar in močvirski cekinček. S stališča hroščev predstavlja negativni vpliv predvsem odstranitve večjih dreves z dupli, ki so habitat mnogim varstveno pomembnim saproksilnim vrstam. Negativni vpliv se lahko izrazi tudi z odstranitvijo večjih hrastov, predvsem na območjih poznane prisotnosti hrastovega kozlička ali rogača. Z gradnjo plinovoda se bo na območju gozdov se v času gradnje posegalo v habitate netopirjev. V času gradnje bo velik vpliv na Natura 2000 območje Zadnje struge pri Suhadolah zaradi neposrednega uničenja kvalifikacijskega habitatnega tipa (jelševja). V času obratovanja bodo vplivi plinovoda manjši. Večji vpliv izgradnje plinovoda pričakujemo zaradi kumulativnih vplivov na vodne živali (ribe, raki, kačji pastirji), vpliv posega na varstvene cilje ostalih območij varstva narave bo zmeren ali majhen. V času odstranitve ali opustitve plinovoda ne bo vpliva na naravo;
- poseg ne bo pomembno vplival na človekovo zdravje ali na človekovo nepremično premoženje v okolici, pričakuje pa se določen vpliv na sami trasi oz. v delovnem in služnostnem pasu;
- poseg ne bo vplival na okolje na območju sosednjih držav;
- v času opustitve posega in po njej bo imel poseg v majhni meri vpliv le na določeno količino odpadkov in hrup.