

**PRE-CAFE REPORT
FOR
2018 MODEL YEAR
OF
HYUNDAI MOTOR COMPANY**

- Light Trucks -



NOTE : THIS REPORT CONTAINS [REDACTED] INFORMATION.

THE PRODUCTION VOLUME IS [REDACTED] INFORMATION
AND THIS INFORMATION IS DEEMED BY HMC TO BE EXEMPT
FROM DISCLOSURE UNDER 5 U.S.C. 552(B)(4) AND
49 U.S.C 32910(c).

TABLE OF CONTENTS

<u>Section</u>	<u>Title</u>	<u>Page</u>
I	Introduction	1
II*	Projected Average and Required Fuel Economy	2 ~ 4
III*	Vehicle Configuration Information	5
IV*	A/C Efficiency Credits	6
V*	Off-cycle Credits	7
VI*	Projected Average Fuel Economy Adjustment	8

Note * : These sections contain [REDACTED] information

I. Introduction

As required by 49 CFR Part 537.9, estimated fuel economy values for Santa Fe FWD, Santa Fe Ultimate FWD, Santa Fe AWD, Santa Fe Ultimate AWD are included in this report.

The certification emission-data and fuel economy data of the above-mentioned vehicles used to get the following fuel economy values were tested in accordance with applicable exhaust emission test procedures and complied with applicable 2018 exhaust emission standards as defined 40 CFR §86.

II. Projected Average and Required Fuel Economy

1. Projected Average Fuel Economy

- LT : **26.7** MPG (without A/C efficiency & off-cycle credits)

- LT : **27.5** MPG (with A/C efficiency & off-cycle credits)

2. Projected Required Fuel Economy

- LT : **32.1** MPG

At this point in time and based on available best present information, the above projections represent the Hyundai Motor Company (HMC) average and required fuel economy for the 2018 model year for the purpose of the Act.

II. Projected Average and Required Fuel Economy

BUSINESS INFORMATION

- Projected Required Fuel Economy

Projected Required	32.1
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Model Type Description	Carline	Basic Engine (disp)	Drive	T/M class	Base Tire	Projected sales	Track width FR (inch)	Track width RR (inch)	Average Track width (inch)	Wheelbase (inch)	footprint (sqr feet)	Target standard	ETW	IWC
Santa Fe FWD 3.3 AT	Santa Fe FWD	3.3	FWD	SA6	235/60R18	21,833	64.1	64.5	64.3	110.2	49.2	32.09	4,250	4,000
Santa Fe Ultimate FWD 3.3 AT	Santa Fe Ultimate FWD	3.3	FWD	SA6	235/55R19 P235/55R19	6,895	64.1	64.5	64.3	110.2	49.2	32.09	4,250	4,000
Santa Fe AWD 3.3 AT	Santa Fe AWD	3.3	AWD	SA6	235/60R18	17,619	64.1	64.5	64.3	110.2	49.2	32.09	4,500	4,500
Santa Fe Ultimate AWD 3.3 AT	Santa Fe Ultimate AWD	3.3	AWD	SA6	235/55R19 P235/55R19	6,851	64.1	64.5	64.3	110.2	49.2	32.09	4,500	4,500

Projected Required	32.1
Total Sales Volume	53,198

$$CAFE_{required} = \frac{\sum_i PRODUCTION_i}{\sum_i TARGET_i}$$

II. Projected Average and Required Fuel Economy

BUSINESS INFORMATION

- Projected average Fuel Economy

Projected Average	26.7
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Model Type Description	Carline	Basic Engine (disp)	Drive	T/M class	Base Tire	Projected sales	City_FE	Hwy_FE	Combined FE	IWC	Model Type Comb.FE	Model Type Vol
Santa Fe FWD 3.3 AT	Santa Fe FWD	3.3	FWD	SA6	235/60R18	21,833	22.8	35.8	27.2534	4,000	27.3	21,833
Santa Fe Ultimate FWD 3.3 AT	Santa Fe Ultimate FWD	3.3	FWD	SA6	235/55R19 P235/55R19	6,895	21.7	34.0	25.9196	4,000	25.9	6,895
Santa Fe AWD 3.3 AT	Santa Fe AWD	3.3	AWD	SA6	235/60R18	17,619	22.7	35.1	26.9909	4,500	27.0	17,619
Santa Fe Ultimate AWD 3.3 AT	Santa Fe Ultimate AWD	3.3	AWD	SA6	235/55R19 P235/55R19	6,851	21.1	32.0	24.9197	4,500	24.9	6,851

Average	26.7
Total Sales Volume	53,198

III. Vehicle Configuration Information

BUSINESS INFORMATION

Model Type Description	Class	Basic Engine (HP)	Drive Class	TM	Base Trk	Engine code	LWR	ETW	Eng. Dis.	Net power	Intracorp	Fuel system	Steer control	W class	of forward	GVW	WV	Axis ratio	Combust FE	Proposed sales	Passenger-carrying volume	Cargo-carrying volume	Body style	Road load (paved at 50 mph)	Safety at least one of items in 523.94)?	Safety 523.50(1)?	Approach angle	Breakover angle	Departure angle	Running clearance	FFWD Clearance	WVC
Santa Fe FWD 3.3 AT	Santa Fe FWD	3.3 FWD	SAE	2550004	GDH-AC	4.32	4.20	3.3	216	200	EFI	TWC	SAE	6	Yes	28.2	3.04	27.2034	21.800			Small SUV 2WD	54.8	Yes, at least one is provided as standard equipment, and when the stability of loading seats are absent, there is a flat, unobstructed cargo-carrying surface for expanded cargo-carrying purposes	No	17.1	Yes (16.2)	Yes (20.5)	No (18.5)	Yes (23.4) in	4.000	
Santa Fe Ultimate FWD 3.3 AT	Santa Fe Ultimate FWD	3.3 FWD	SAE	2550004	GDH-AC	4.32	4.20	3.3	216	200	EFI	TWC	SAE	6	Yes	28.2	3.04	29.9196	8.995	111 (45.3%) 146 (59.7%)	40 (16.3%) 146 (59.7%)	Small SUV 2WD	55.1		No	17.1	Yes (16.2)	Yes (20.5)	No (18.5)	Yes (23.4) in	4.000	
Santa Fe AWD 3.3 AT	Santa Fe AWD	3.3 AWD	SAE	2550004	GDH-AC	4.48	4.30	3.3	216	200	EFI	TWC	SAE	6	Yes	28.2	3.04	29.9400	11.000			Small SUV 4WD	55.2		AVD	17.1	Yes (16.2)	Yes (20.5)	No (18.5)	Yes (23.4) in	4.000	
Santa Fe Ultimate AWD 3.3 AT	Santa Fe Ultimate AWD	3.3 AWD	SAE	2550004	GDH-AC	4.48	4.30	3.3	216	200	EFI	TWC	SAE	6	Yes	28.2	3.04	28.6747	6.800			Small SUV 4WD	55.2		AVD	17.1	Yes (16.2)	Yes (20.5)	No (18.5)	Yes (23.4) in	4.000	

IV. A/C Efficiency Credits

BUSINESS INFORMATION

Model Type Description	Carline	Basic Engine (disp)	Drive	T/M class (Drive, type, gear)	Base Tire	Refrigerant	A/C Drive System	Projected sales	Reduc'd Reheat with variable displ compressor 2.2 qpm	Reduced Reheat with fixed displ or pneumatic compressor 1.4 qpm	Default to Recirc with feedback sensor 2.2 qpm	Default to Recirc without feedback sensor 1.4 qpm	Efficient Slower Motor Controls 1.1 qpm	Internal Heat Exchanger 1.4 qpm	Improved Condensor and/or Evaporator (requires EPA approval) 1.4 qpm	Oil Separator (requires EPA approval) 0.7 qpm	Total Menu-based Credits qpm	A/C Efficiency Credit megagrams	VLM
Santa Fe FWD 3.3 AT	Santa Fe FWD	3.3	FWD	SA6	235/60R18	R134a	Belt-Driven	21,833	2.2	0.0	0.0	0.0	1.1	1.4	0.0	0.7	5.4	26,629	225,865
Santa Fe Ultimate FWD 3.3 AT	Santa Fe Ultimate FWD	3.3	FWD	SA6	235/55R19 P235/55R19	R134a	Belt-Driven	6,895	2.2	0.0	0.0	0.0	1.1	1.4	0.0	0.7	5.4	8,410	225,865
Santa Fe AWD 3.3 AT	Santa Fe AWD	3.3	AWD	SA6	235/60R18	R134a	Belt-Driven	17,619	2.2	0.0	0.0	0.0	1.1	1.4	0.0	0.7	5.4	21,489	225,865
Santa Fe Ultimate AWD 3.3 AT	Santa Fe Ultimate AWD	3.3	AWD	SA6	235/55R19 P235/55R19	R134a	Belt-Driven	6,851	2.2	0.0	0.0	0.0	1.1	1.4	0.0	0.7	5.4	8,356	225,865

ACCredit	64,884	VLM	225,865
LT volume	53,198		
FCV _{ac} (Gal/mi)	0.000697629		

$$FCV_{Ac} \text{ (gal/mi)} = \frac{(ACCredit \times 1,000,000)}{(VLM \times Production \times 8887)}$$

V. Off-cycle Credits

BUSINESS INFORMATION

Model Type Description	Carline	Basic Engine (disp)	Drive	TM class (Drive, type, gear)	Base Tire	Description	Projected sales	Off-cycle benefit per vehicle	Off-cycle credits	VLM
								gpm	megagrams	
Santa Fe FWD 3.3 AT	Santa Fe FWD	3.3	FWD	SA6	235/60R18	ATF warmer 3.2, Glazing 1.1	21,833	4.3	21,205	225,865
Santa Fe Ultimate FWD 3.3 AT	Santa Fe Ultimate FWD	3.3	FWD	SA6	235/55R19 P235/55R19	Active seat ventilation 1.3, ATF warmer 3.2, Glazing 1.0	6,895	5.5	8,565	225,865
Santa Fe AWD 3.3 AT	Santa Fe AWD	3.3	AWD	SA6	235/60R18	ATF warmer 3.2, Glazing 1.1	17,619	4.3	17,112	225,865
Santa Fe Ultimate AWD 3.3 AT	Santa Fe Ultimate AWD	3.3	AWD	SA6	235/55R19 P235/55R19	Active seat ventilation 1.3, ATF warmer 3.2, Glazing 1.0	6,851	5.5	8,511	225,865
OCCredit		55,393		VLM		225,865				
Truck volume		53,198								
FCV _{oc} (Gal/mi)		0.000518747								

$$FCV_{oc} \text{ (gal/mi)} = \frac{(OCCredit \times 1,000,000)}{(VLM \times Production \times 8887)}$$

VI. Projected Average Fuel Economy Adjustment

Average MPG	27.5
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P4	MPG	26.7
P6	FCIV _{AC} (Gal/mi)	0.000607629
P7	FCIV _{OC} (Gal/mi)	0.000518747
N/A	FCIV _{PU} (Gal/mi)	0

$$\text{Average MPG} = \frac{1}{\left[\frac{1}{\text{MPG}} - (\text{FCIV}_{AC} + \text{FCIV}_{OC} + \text{FCIV}_{PU})\right]}$$