

Appendix 1. Power generation mix in each case (2035)

(Case 0: 2035)

	Unit: TWh												Total
	SGP	BRN	IDN	MYS	PHL	THA	VNM	MYA	LAO	KHM	YNN	NEI	
Coal	0	0	316	187	133	49	322	8	14	7	88	3	1,126
Oil	0	0	0	0	0	0	0	0	1	0	0	0	1
Natural gas	61	8	231	166	31	254	136	21	0	0	49	31	989
Hydro	0	0	92	18	8	4	51	11	54	15	187	15	457
Nuclear & geothermal	0	0	65	0	12	23	29	0	0	0	0	0	128
Others	5	0	29	0	1	26	0	4	0	0	0	0	66
Net imports	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	66	8	733	372	186	355	539	45	69	22	325	49	2,767

(Case 1: 2035)

	Unit: TWh												Total
	SGP	BRN	IDN	MYS	PHL	THA	VNM	MYA	LAO	KHM	YNN	NEI	
Coal	0	0	315	157	133	49	316	17	41	14	96	3	1,141
Oil	0	0	0	0	0	0	0	0	0	0	0	0	0
Natural gas	53	6	239	195	32	225	141	14	0	0	45	30	978
Hydro	0	0	92	18	8	4	51	11	54	15	187	15	457
Nuclear & geothermal	0	0	65	0	12	23	29	0	0	0	0	0	128
Others	5	0	29	0	1	26	0	4	0	0	0	0	66
Net imports	8	2	-6	1	-1	29	2	-2	-26	-7	-3	1	-2
Total	66	8	733	372	186	355	539	45	69	22	325	49	2,767

(Case 2a: 2035)

	Unit: TWh												Total
	SGP	BRN	IDN	MYS	PHL	THA	VNM	MYA	LAO	KHM	YNN	NEI	
Coal	0	0	182	91	109	48	119	0	29	3	82	0	662
Oil	0	0	0	0	0	0	0	0	0	0	0	0	0
Natural gas	53	6	201	189	33	128	85	0	0	0	0	0	695
Hydro	0	0	265	88	32	16	240	95	81	35	319	56	1,227
Nuclear & geothermal	0	0	65	0	12	23	29	0	0	0	0	0	128
Others	5	0	29	0	1	26	0	4	0	0	0	0	66
Net imports	8	2	-9	4	-1	115	65	-55	-41	-16	-76	-8	-12
Total	66	8	733	372	186	355	539	45	69	22	325	49	2,767

(Case 2b: 2035)

	Unit: TWh												Total
	SGP	BRN	IDN	MYS	PHL	THA	VNM	MYA	LAO	KHM	YNN	NEI	
Coal	0	0	313	146	133	49	304	17	41	14	96	3	1,115
Oil	0	0	0	0	0	0	0	0	0	0	0	0	0
Natural gas	53	6	240	194	32	122	82	14	0	0	45	30	818
Hydro	0	0	92	30	8	4	51	77	74	24	264	28	652
Nuclear & geothermal	0	0	65	0	12	23	29	0	0	0	0	0	128
Others	5	0	29	0	1	26	0	4	0	0	0	0	66
Net imports	8	2	-6	2	-1	132	72	-67	-46	-16	-80	-11	-12
Total	66	8	733	372	186	355	539	45	69	22	325	49	2,767

(Case 3: 2035)

	Unit: TWh												Total
	SGP	BRN	IDN	MYS	PHL	THA	VNM	MYA	LAO	KHM	YNN	NEI	
Coal	0	0	310	140	133	48	315	17	41	14	96	3	1,117
Oil	0	0	0	0	0	0	0	0	0	0	0	0	0
Natural gas	25	3	224	124	32	76	44	14	0	0	45	30	616
Hydro	0	0	92	30	8	4	51	259	93	35	268	28	868
Nuclear & geothermal	0	0	65	0	12	23	29	0	0	0	0	0	128
Others	5	0	29	0	1	26	0	4	0	0	0	0	66
Net imports	36	5	13	78	-1	178	99	-250	-65	-27	-83	-11	-28
Total	66	8	733	372	186	355	539	45	69	22	325	49	2,767

Appendix 2. Power trade in each case (2025, 2030 and 2035)

(Case 1: 2025)

From:	To:												Total
	SGP	BRN	IDN	MYS	PHL	THA	VNM	MYA	LAO	KHM	YNN	NEI	
SGP													0.0
BRN													0.0
IDN				14.9									14.9
MYS	9.6	1.2	0.2			4.4							15.5
PHL													0.0
THA				1.5									1.5
VNM									17.0	3.4	0.4		20.8
MYA						4.8						10.1	14.9
LAO						62.6				1.4	0.1		64.0
KHM						11.0			0.0				11.0
YNN							1.8	9.4	22.7				33.8
NEI													0.0
Total	9.6	1.2	0.2	16.3	0.0	82.8	1.8	9.4	39.7	4.8	0.5	10.1	176.4

(Case 1: 2030)

From:	To:												Total
	SGP	BRN	IDN	MYS	PHL	THA	VNM	MYA	LAO	KHM	YNN	NEI	
SGP				0.1									0.1
BRN				0.0									0.0
IDN				9.0									9.0
MYS	9.4	1.3	0.4			2.7							13.9
PHL													0.0
THA				1.0									1.0
VNM									9.3	3.2	0.2		12.7
MYA						2.5						6.9	9.4
LAO						52.2				0.9	0.6		53.6
KHM						11.1	0.1		0.0				11.3
YNN							1.5	2.5	18.8				22.8
NEI													0.0
Total	9.4	1.3	0.4	10.1	0.0	68.5	1.6	2.5	28.1	4.1	0.7	6.9	133.7

(Case 1: 2035)

From:	To:												Total	
	SGP	BRN	IDN	MYS	PHL	THA	VNM	MYA	LAO	KHM	YNN	NEI		
SGP				0.1										0.1
BRN				0.1										0.1
IDN				6.9										6.9
MYS	7.9	1.8	0.4			0.2								10.2
PHL														0.0
THA				4.5				0.1	0.5					5.1
VNM									0.4	1.1	0.6			2.1
MYA						0.6					0.1	1.5		2.1
LAO						27.4	0.9			0.5	3.7			32.6
KHM						6.8	1.1		0.3					8.2
YNN							1.8	0.3	5.2					7.4
NEI														0.0
Total	7.9	1.8	0.4	11.6	0.0	35.0	3.8	0.4	6.4	1.6	4.4	1.5		74.7

(Case 2a: 2025)

From:	To:												Total	
	SGP	BRN	IDN	MYS	PHL	THA	VNM	MYA	LAO	KHM	YNN	NEI		
SGP				0.0										0.0
BRN														0.0
IDN				15.4										15.4
MYS	9.5	1.5	0.3			3.3								14.6
PHL														0.0
THA				2.1										2.1
VNM									17.6	3.5	0.5			21.5
MYA						11.6						2.1		13.7
LAO						61.9				1.4	0.0			63.3
KHM						11.0			0.0					11.0
YNN							2.6	6.7	22.8					32.1
NEI								1.8						1.8
Total	9.5	1.5	0.3	17.5	0.0	87.8	2.6	8.6	40.4	4.8	0.5	2.1		175.6

(Case 2a: 2030)

From:	To:												Total	
	SGP	BRN	IDN	MYS	PHL	THA	VNM	MYA	LAO	KHM	YNN	NEI		
SGP				0.2										0.2
BRN				0.0										0.0
IDN				8.9										8.9
MYS	9.4	1.5	0.4			1.1								12.4
PHL														0.0
THA				2.2					0.0					2.3
VNM									4.1	2.5	0.3			6.9
MYA						39.3						1.0		40.3
LAO						53.9	0.2			1.0	0.6			55.6
KHM						14.6	0.2		0.1					14.8
YNN							7.6	2.1	12.8					22.6
NEI								4.3						4.3
Total	9.4	1.5	0.4	11.3	0.0	108.9	8.0	6.4	16.9	3.5	0.9	1.0		168.1

(Case 2a: 2035)

From:	To:												Total	
	SGP	BRN	IDN	MYS	PHL	THA	VNM	MYA	LAO	KHM	YNN	NEI		
SGP				0.2										0.2
BRN				0.1										0.1
IDN				9.2										9.2
MYS	8.0	1.8	0.4			0.6								10.8
PHL														0.0
THA				5.6					0.1					5.7
VNM														0.0
MYA						65.9					0.4	0.5		66.8
LAO						46.7	4.9			0.2	0.7			52.6
KHM						12.9	2.8		0.2					15.9
YNN							60.1	4.4	11.8					76.4
NEI								8.0						8.0
Total	8.0	1.8	0.4	15.0	0.0	126.1	67.8	12.4	12.1	0.2	1.1	0.5		245.4

(Case 2b: 2025)

From:	To:												Total	
	SGP	BRN	IDN	MYS	PHL	THA	VNM	MYA	LAO	KHM	YNN	NEI		
SGP														0.0
BRN														0.0
IDN				14.7										14.7
MYS	9.6	1.2	0.2			4.2								15.2
PHL														0.0
THA				1.6										1.6
VNM									15.8	3.4	0.1			19.3
MYA						16.9						0.1		17.0
LAO						62.8				1.4				64.2
KHM						13.3	0.0		0.0					13.4
YNN							11.8	11.4	24.0					47.2
NEI								0.3						0.3
Total	9.6	1.2	0.2	16.3	0.0	97.2	11.8	11.7	39.8	4.8	0.1	0.1		192.8

(Case 2b: 2030)

From:	To:												Total	
	SGP	BRN	IDN	MYS	PHL	THA	VNM	MYA	LAO	KHM	YNN	NEI		
SGP				0.2										0.2
BRN				0.0										0.0
IDN				7.5										7.5
MYS	9.4	1.4	0.4			1.1								12.2
PHL														0.0
THA				2.1										2.1
VNM									7.8	2.4				10.2
MYA						66.8								66.8
LAO						57.6	0.4			0.5	0.1			58.6
KHM						16.9	0.4		0.2					17.5
YNN							31.8	4.5	23.5					59.8
NEI								6.0						6.0
Total	9.4	1.4	0.4	9.7	0.0	142.3	32.6	10.5	31.5	2.9	0.1	0.0		240.8

(Case 2b: 2035)

From:	To:												Total	
	SGP	BRN	IDN	MYS	PHL	THA	VNM	MYA	LAO	KHM	YNN	NEI		
SGP				0.1										0.1
BRN				0.1										0.1
IDN				6.5										6.5
MYS	7.9	1.8	0.4			0.6								10.6
PHL														0.0
THA				5.9					0.1					6.1
VNM										0.1				0.1
MYA						81.8					0.4			82.2
LAO						49.5	7.6			0.4	0.8			58.4
KHM						13.0	2.9		0.1					16.1
YNN							64.0	4.6	12.2					80.8
NEI								11.2						11.2
Total	7.9	1.8	0.4	12.6	0.0	144.9	74.6	15.7	12.4	0.5	1.2	0.0		272.0

(Case 3: 2025)

From:	To:												Total	
	SGP	BRN	IDN	MYS	PHL	THA	VNM	MYA	LAO	KHM	YNN	NEI		
SGP														0.0
BRN														0.0
IDN				40.0										40.0
MYS	56.1	1.4	0.4			3.1								61.0
PHL														0.0
THA				20.8										20.8
VNM										65.5				65.5
MYA						4.5						2.0		6.4
LAO						58.3								58.3
KHM						80.6								80.6
YNN							25.8	0.0	25.0					50.8
NEI								0.1						0.1
Total	56.1	1.4	0.4	60.8	0.0	146.5	25.8	0.1	25.0	65.5	0.0	2.0		383.6

(Case 3: 2030)

From:	To:												Total	
	SGP	BRN	IDN	MYS	PHL	THA	VNM	MYA	LAO	KHM	YNN	NEI		
SGP														0.0
BRN				0.0										0.0
IDN				16.4										16.4
MYS	58.7	1.7	1.5											61.9
PHL														0.0
THA				46.6										46.6
VNM										46.0				46.0
MYA						77.0								77.0
LAO						74.6				0.0				74.6
KHM						67.3	0.6							67.9
YNN							38.5	1.1	25.3					64.9
NEI								6.0						6.0
Total	58.7	1.7	1.5	63.0	0.0	218.8	39.1	7.1	25.3	46.0	0.0	0.0		461.0

(Case 3: 2035)

From:	To:												Total	
	SGP	BRN	IDN	MYS	PHL	THA	VNM	MYA	LAO	KHM	YNN	NEI		
SGP														0.0
BRN														0.0
IDN				0.6										0.6
MYS	35.8	4.8	14.2											54.8
PHL														0.0
THA				136.6						0.6				137.2
VNM										5.7				5.7
MYA						264.7								264.7
LAO						54.7				24.3				78.9
KHM						14.3	42.8							57.1
YNN							64.7	4.5	14.3					83.5
NEI								11.1						11.1
Total	35.8	4.8	14.2	137.2	0.0	333.6	107.5	15.6	14.3	30.5	0.0	0.0		693.6

**Appendix 3. Cumulative costs up to 2035
(differences compared to Case 0)**

Unit: USD million

	Case 0	Case 1	Case 2b	Case 3
Initial cost	0	-3,308	6,276	16,482
Fuel cost	0	-3,882	-15,790	-27,070
O&M cost	0	-1,883	2,952	6,827
Total cost	0	-9,073	-6,562	-3,761